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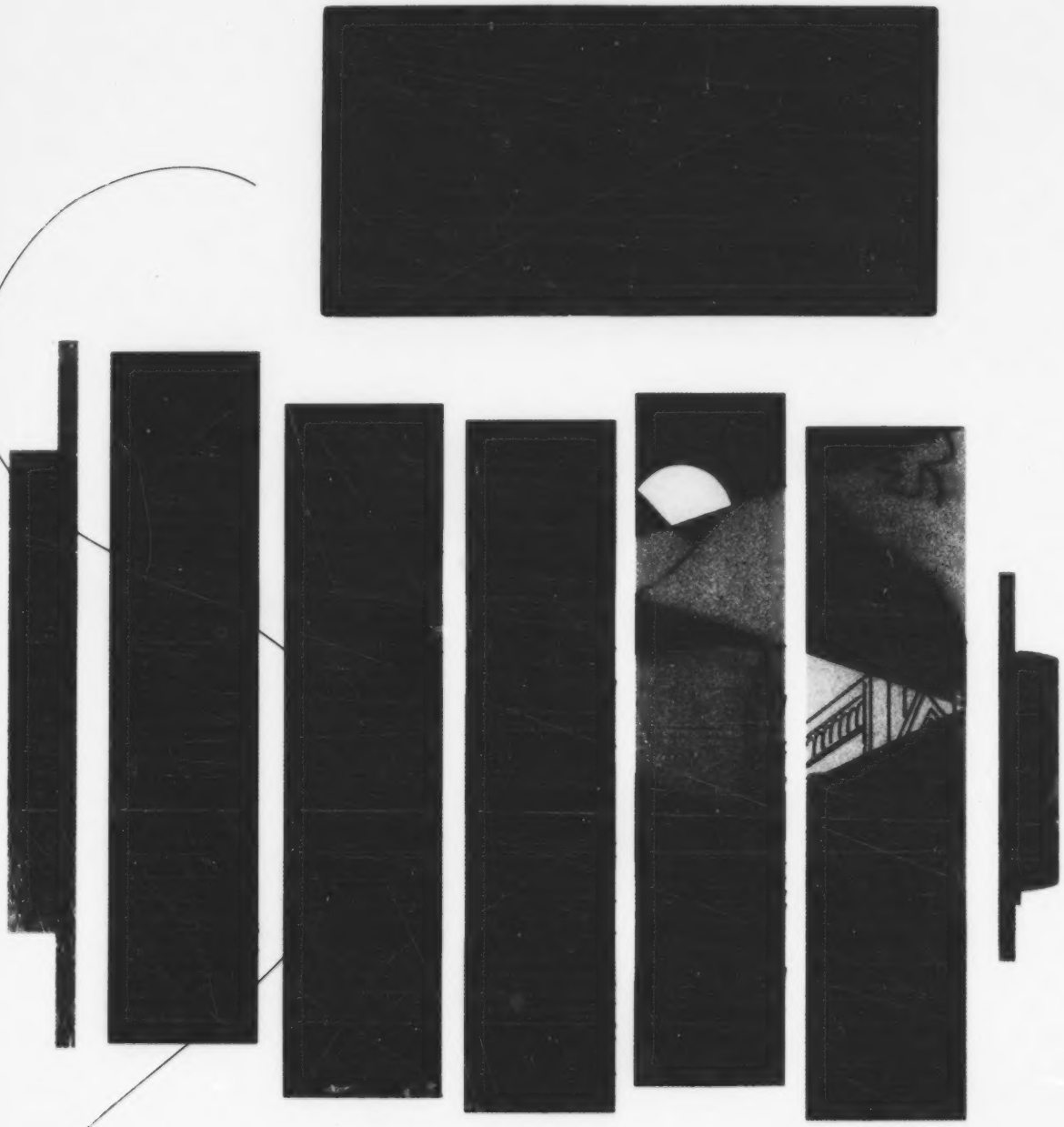

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Research Report

The Psychological Effects of 60 Days in Administrative Segregation

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The Psychological Effects of 60 days in Administrative Segregation

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EXECUTIVE SUMMARY

Participants in this longitudinal study included 60 inmates from Kingston, Collins Bay and Millhaven Penitentiaries who had either been (a) voluntarily or involuntarily placed in administrative segregation and remained in segregation for 60 days (quasi-experimental group; n = 23), or (b) randomly selected from the general inmate population and remained in the general inmate population for 60 days (comparison group; n = 37). Participants initially completed written psychological tests and took part in a structured interview that assessed their overall mental health and psychological functioning. The same procedure was undertaken 30 days later and again 60 days later. Segregated offenders had similar education, offence history and criminogenic needs than non-segregated offenders. However, segregated offenders had distinct personalities, Neuroticism, Extroversion, Openness (NEO) and were higher risk cases, Statistical Information on Recidivism (SIR Scale) than non-segregated offenders. Overall, segregated offenders had poorer mental health and psychological functioning. However, there was no evidence that over a period of 60 days the mental health and psychological functioning of segregated offenders significantly deteriorated.

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THE PSYCHOLOGICAL EFFECTS OF 60 DAYS IN SEGREGATION

Introduction

The percentage of segregated offenders has more than doubled in the last ten years[1] (Pierson, 1988), now representing approximately 5.5% of federally sentenced offenders in Canada (Kane, 1997). However, there has been little research conducted concerning these offenders. Moreover, the literature on segregation is sparse, conflicting, rife with speculations, and based upon far-fetched extrapolations and generalizations (Barak-Glantz, 1983; Brodsky & Scogin, 1988; Suedfeld et al., 1982; Wormith et al.,1988).

Unfortunately, controversy surrounding the issue of the effects of segregation on offenders has developed based on this inadequate body of research, resulting in two positions, which are virtually polar opposites. Some researchers describe segregation as "cruel and unusual punishment" and psychologically damaging, whereas others provide evidence that segregation has little, if any, negative psychological effect on offenders. The conclusions of these two assessments are strikingly opposed and difficult, if not impossible, to reconcile.

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[1] Gendreau et al., (1985) trace increasing reliance on Protective Custody (PC) and administrative segregation to several factors: the diminished authority of prison administrators; increased demands for drugs; increased media coverage of crimes; overcrowding; outmoded classification systems; the increase in first-time federally sentenced offenders; the deinstitutionalization of mental health patients; the relative solitude of PC units compared to the general population; the growth of offender prison gangs; police and court practices designed to encourage accomplices to testify against each other in exchange for more favorable dispositions; correctional staff's attitudes at the institutional receptions; increased willingness and ability of offenders to sue for damages; the likelihood of prison officials to be held personally liable for injuries by offenders in their care; and the increased public scrutiny of prison administrations and increased public concerns for human rights violations.

To favour one of the two opposing views concerning the impact of segregation on offenders may have important policy implications in areas such as: (a) the level and frequency of monitoring and assessment required for offenders in segregation (mandatory vs. upon request); (b) programming to reduce mental health deterioration (need for, and type of, intervention programs); and (c) the adequacy of current assessment strategies (what aspects of psychosocial functioning are important to assess, and which are less impacted by segregation).

This document contains three sections: 1) a review of the literature concerning the psychological effects of segregation highlighting the two opposing positions; 2) a review of the methodological issues with respect to segregation research; and 3) the findings of a research project which addressed the shortcomings of the existing literature.

Negative Effects *Versus* No Negative Effects

Negative Effects

Several authors argue that segregation has severe negative psychological effects on inmates. These authors, primarily lawyers and clinical psychologists, have mainly relied upon interviews of segregated inmates and anecdotes to draw their conclusions. For example, Jackson (1983) interviewed numerous segregated inmates, and concluded that segregation was "the most individually destructive, psychologically crippling and socially alienating experience that could conceivably exist within the borders of the country" (p. 243). He recounted many instances where segregation was, in his opinion, responsible for the development of psychoses (auditory and visual hallucinations, and delusions) and where segregation drove some offenders to self-inflict serious injuries, or to commit suicide.

Toch (1975) relied on excerpts of interviews with segregated inmates and concluded that there are some inmates whose tolerance for isolation is low. These inmates react to segregation with "surges of panic, despair, or rage. They lose control, break down, regress" (Toch, 1975; p.38).

Grassian (1983) also utilized interviews to assess the effects of segregation on fourteen inmates who were involved in a "cruel and unusual punishment" civil action. Grassian (1983) observed similar symptoms as those reported in the American and German correctional literature of the 18th and early 19th centuries. He reported the following damaging effects of segregation:

> 1) sensory disturbances: perceptual distortions and loss of perceptual constancy, in some cases without hallucinations; 2) ideas of reference and paranoid ideation short of overt delusions; 3) emergence of primitive aggressive fantasies, which remained ego-dystonic and with reality-testing preserved; 4) disturbances of memory and attention short of overt disorientation and confusional state; and 5) de-realization experiences without massive dissociative regression. (p. 1453)

Haney (1993) assessed the mental health of Pelican Bay Special Handling Unit inmates whose conditions of confinement are very similar to those found in traditional segregation. Interviews revealed that inmates were "deprived of human contact, touch and affection for years on end" (p. 4), and that the operational procedures employed by correctional staff are designed to reinforce and maintain these deprivations. Haney (1993) argues that these deprivations can precipitate various forms of psychopathology, and worsen pre-existing psychiatric conditions. Moreover, although inmates' coping skills in segregation vary, few escape unscathed by the experience.

Korn (1988) argues that conditions of confinement in the High Security Unit (HSU) at Lexington (Kentucky) amounted to an "egregious violation of the rights of citizens and a massive abuse of power by the state" (p. 8). He also describes the conditions of confinement in this unit as similar in many respects to conditions found in traditional segregation. Korn (1988) contends that women inmates confined in this unit are depersonalized, denied individuality, denied personal autonomy, sexually abused, humiliated, and forced into hopelessness. He suggests that the conditions of confinement at the HSU at Lexington elicit claustrophobia, rage, severe depression, hallucination, withdrawal, blunting of affect, and apathy. Moreover, his research reports that women inmates housed in this unit experienced physical reactions, such as loss of appetite and weight, exacerbation of pre-existing medical problems, visual disturbances, dizziness, and heart palpitations.

Benjamin and Lux (1975) reviewed testimony of segregated adult and young offenders and concluded that emotional illness and aggression are byproducts of segregation. Two years later, they stated that there is "overwhelming evidence that solitary confinement alone, even in the absence of physical brutality or unhygienic conditions, can produce emotional damage, decline in mental functioning and even the most extreme forms of psychopathology, such as depersonalization, hallucination and delusions" (Benjamin and Lux, 1977, p. 268). They take the position that placing an inmate in solitary confinement for a substantial length of time (e.g., anything more than a few "cooling off" hours) amounts to "a criminal act far worse than the original crime the prisoner committed in society, and worse than the wide variety of disciplinary breaches which the prisoner may commit while in prison" (p. 296). They argue that the devastating effects of long-term solitary are so severe that the practice should be abolished. They affirm that solitary confinement: (1) causes severe and possibly permanent mental deterioration and emotional

damage; (2) results in anger, hostility, and further violence; and (3) is implicated (in some cases) in death by suicide.

Zubek, Bayer, and Shephard (1969) found that solitary confinement affects physiological and psychological health. They assigned 66 university students for one week to three conditions: (1) confinement, (2) confinement and social isolation, and (3) control. Although the majority remained unaffected on standardized measures, differences were found on a self-reported retrospective questionnaire, including visual experiences of a hallucinatory-like nature, inefficient thought processes, subjective restlessness, and anxiety. The authors concluded that "it is clear that the various experimental conditions become increasingly less tolerable as one proceeds from confinement, to social isolation, and finally to perceptual deprivation" (p. 629).

Brodsky and Scogin (1988) reported similar findings. They interviewed 45 segregated inmates about their confinement in solitary confinement, and reported alarming negative psychological and physiological harm on the Omnibus Stress Questionnaire (Jones, 1976) and an isolation effects checklist. Inmates reported a high prevalence of symptoms, such as feelings of nervousness (84%), headaches (61%), talking to self (68%), hallucinations and delusions (42%), confusion (65%), irrational anger (71%), nightmares (42%), and sleeping problems (61%).

Miller and Young (1997) administered the Brief Symptom Inventory (Derogatis, 1975) to a group of ten offenders who were segregated for administrative reasons and another group of ten offenders who were segregated for disciplinary reasons. They compared the two groups to ten offenders who were incarcerated in the general inmate population. They concluded that as inmates' living restrictions increase, their level of psychological distress also increases.

No Negative Effects

There is a small body of empirical literature that provides evidence that segregation produces few, if any negative psychological effects on inmates. Support for this view stems primarily from the research of Gendreau and his colleagues. For example, Gendreau et al. (1968a) undertook a study to examine whether sensory deprived individuals attempt to seek increased stimulation. They assigned 10 inmates for seven days to a severe sensory deprived condition and 10 inmates to a control condition. They found that the deprived inmates did not desire a greater amount of sensory input subsequent to the perceptual deprivation compared to the control group. The authors concluded that inmates could easily adapt to the deprived situation.

In another study, Gendreau et al. (1968b) randomly assigned 16 students to either isolation or a non-isolation condition for seven days. They found no significant changes on visual and auditory skill tests. Gendreau et al. (1970) found that monotonous confinement for two days did not result in differences in discriminatory conditioning among inmates. Gendreau et al. (1972) found that solitary confinement of inmates for seven days produced significant changes in their EEG frequency and visually evoked potentials. Although they did not hypothesize as to whether these changes were harmful, the authors argue that physiological changes are simply related to inmates' good ability to adapt to sensory deprivation. Ecclestone, Gendreau, and Knox (1974) found that inmates' personality constructs in solitary confinement for ten days increased in stability compared with non-confined inmates. The effect was stronger for "good" connotation constructs (e.g., understanding, honesty, successful, easy going, like me) than "bad" ones (e.g., stubborn, violent, unstable, pessimistic, insecure). Measures of plasma cortisol levels failed to show that solitary confinement was more stressful than normal institutional life.

Gendreau and Bonta (1984) responded to Jackson's (1983) accusations that segregation amounted to "cruel and unusual punishment", calling them grossly inflammatory and unfounded. They reviewed the empirical literature on sensory deprivation, and concluded that "experimental studies examining the effects of solitary confinement on inmates for up to 10 days and retrospective studies have found little debilitating effects upon inmates" (p. 471). Eleven years later, they reexamined the effects of incarceration with special attention to conditions of confinement (Bonta & Gendreau, 1995). They again concluded that the psychological empirical literature on sensory deprivation reveals no deleterious effects of solitary confinement.

Other researchers who have investigated the effects of segregation have reported similar findings to Gendreau and his colleagues. For example, Suedfeld et al. (1982) assessed 26 inmates who experienced segregation and compared them with 17 inmates who did not. Although they reported that increased time or increased number of times in segregation were associated with inhibition, anxiety, lack of self-insight, submissiveness, depression, hostility, suspicion, distrustfulness, self-centeredness, and immaturity, they concluded that their data did not support the claim that solitary confinement is "overwhelmingly aversive, stressful, or damaging to the inmates" (p. 335).

A further study by Walters et al. (1963) randomly assigned 40 inmates to either a segregation condition or the general inmate population for four days. They found that the isolation produced some changes in subjective feelings (e.g., increased anxiety), but did not result in mental or psychomotor deterioration or increased susceptibility to social influence. They concluded, "the deleterious consequences of social isolation have been too greatly emphasized" (p. 772).

Evaluation of Existing Research on Segregation: A Review of Methodological Shortcomings

The above review of the literature on the effects of segregation illustrates the difficulty in reconciling the two opposing views of this debate. However, it appears that supporters of one view often fail to appreciate the findings of the opposing view, as well as to recognize the limitations of their own findings when drawing their conclusions. The following review of methodological issues highlights the current unsatisfactory state of the literature on the effects of segregation. As noted previously, the ability to generalize the results of these studies is affected to varying degrees by improper attention to methodological shortcomings of the research conducted.

1. Reliance on Qualitative Data (e.g., Casual Observations, Interviews and Anecdotes)

Many authors use anecdotal evidence to support their claims (Benjamin & Lux, 1975, 1977; Brodsky & Scogin, 1988; Grassian, 1983; Jackson, 1983; Korn, 1988). These authors often take selected powerful excerpts from interviews or the testimony of segregated offenders or mental health professionals who had contacts with segregated offenders to provide general evidence of the harmful effects of segregation. Some rely on testimony on the use of isolation in the 19th century to produce corroborative evidence of the harmful effects of segregation in today's North American correctional context (Grassian, 1983; Immarigeon, 1992; Luise, 1989). Others use case law of successful, and at times unsuccessful, human rights litigation to depict the general conditions of confinement and treatment of segregated offenders, as well as the ensuing psychological and physical harm (Benjamin & Lux, 1977; Birkinshaw, 1981; Jackson, 1983; Luise, 1989).

The evidence of the damaging effects of segregation on offenders brought forward by these authors is very disturbing, and cannot be ignored. However, because of the nature of the methodology relied upon by these authors, it is often unclear whether the pathologies displayed by some segregated offenders were directly attributable to the conditions of confinement in segregation or whether prior to their segregation these offenders displayed similar pathologies in the general offender population or in the community (Gendreau & Bonta, 1984).

In addition, Suedfeld and colleagues (1982) found that some authors inappropriately use findings from case studies of persons who experienced severe abuse and sensory deprivation to illustrate the damaging effects of segregation. Testimony of tortured political and war prisoners who were denied food, clothing, medical assistance and procedural fairness are at times relied upon to provide corroborative evidence of damaging effects of segregation in contemporary North American correctional settings (Benjamin & Lux, 1975; Korn, 1988). Such comparisons have been judged to be absurd, and the generalization of the findings of these case studies questioned (Gendreau & Bonta, 1984; Suedfeld et al., 1982). Isolation in a political or war camp is not comparable to the highly regulated and formalized procedures for imposing segregation on offenders in North American penitentiaries. Conditions of confinement, procedural safeguards, and the level of safety and security provided to the offenders differ to such an extent that a comparison is clearly inappropriate (Gendreau & Bonta, 1984; Suedfeld et al., 1982).

2. Conditions of Confinement

One of the problems with segregation research stems from a difficulty in defining the constructs being evaluated. Many terms, such as administrative

segregation, dissociation, isolation, seclusion, protective custody and solitary confinement are used, often interchangeably, to describe various restrictive environments. These terms encompass a wide range of conditions of confinement in which restrictions on freedom of association and freedom of movement may vary, and in which levels of perceptual deprivation, sensory deprivation and social isolation may also vary. There is such a diversity in the nature of conditions of confinement used in segregation research that lumping all studies together under the same "solitary confinement" label has been judged to be inappropriate (Suedfeld et al., 1982).

Many authors recognize the importance of the environment with respect to its impact upon the segregation experience and the difficulty associated with generalizing results (Grassian, 1983). Conditions of confinement and daily routine vary so greatly among correctional institutions (Kane, 1997; Vantour, 1975) that results derived from one institutional setting may not be applicable to others. For example, the frequency and quality of interactions with staff or other offenders, the physical layout of segregation cells (e.g., solid doors, cell size, etc.), the size of the exercise yard, the availability of recreational equipment and hobby items, and the access to personal effects, programs and services, may all impact on the segregation experience. As a result, the majority of studies describe, at great length, the conditions of confinement and the daily routine of segregated offenders being studied.

Many authors have reviewed the proliferation of control units in the United States and abroad in an attempt to determine their effects on offenders' mental and physical health (Birkinshaw, 1981; Coyle, 1987; Dowker & Good, 1993; Korn, 1988; Immarigeon, 1992). The establishment of control units in the United States originated in 1963 when a penitentiary in Marion (Illinois) was built to replace Alcatraz (Coyle, 1987). Since then, more than 33 States have comparable Marion-like facilities (Immarigeon, 1992). Control units provide a good illustration of the difficulty in defining the constructs being evaluated.

Although correctional authorities do not formally recognize control units as segregation units, and although they sometimes impose fewer restrictions on offenders than in traditional segregation units, they often impose many similar conditions of confinement (Coyle, 1987; Dowker & Good, 1993; Immarigeon, 1992; Korn, 1988). For example, Dowker and Good (1993) describe some of the defining features of these institutions. Offenders are confined in small cells for 22 or 23 hours per day. The cells are often equipped with solid steel doors, which prevent any communication between offenders. Further, often these institutions are equipped with remote electronic sliding doors, which minimize, if not eliminate, most contact with correctional staff. There are no congregate dining, exercise, or religious services, and few, if any, work opportunities.

3. Relevance of Field and Laboratory Experiments on Sensory Deprivation

Most of the experimental studies on segregation come from the field of sensory deprivation. Gendreau and his colleagues have generated and evaluated many theories and hypotheses on sensory deprivation in the correctional context. For example, Gendreau and colleagues examined whether: isolated prisoners show higher arousal potential because of a lower arousal level induced by solitary confinement (Gendreau et al., 1972); segregation enhances learning (Gendreau et al., 1970); isolated subjects desire a lower level of stimulation (visual and auditory sensory input) after a deprivation experience (Gendreau et al., 1968a); and stress levels, as indicated by adrenocortical activity, can detect whether solitary confinement is harmful (Ecclestone et al., 1974).

Others have commented upon or tested theories and hypotheses of sensory deprivation in the correctional context as well. For example, Benjamin and Lux (1977) argue that segregation is harmful because it dramatically

reduces levels of needed stimulation. Dowker and Good (1993) believe that offenders who are segregated for long periods of time may be deprived of necessary meaningful human contacts, and, as a result, these offenders have difficulties in coping with normal social situations again.

Suedfeld et al. (1982) argue that the comparison between field or laboratory experiments on isolation and stimulus reduction and today's typical North American segregation environment is inappropriate. They contend that it is highly questionable whether the typical segregation unit in fact imposes much reduction in stimulus input. They state that most segregated offenders can communicate with guards and other offenders and have access to reading material, mail, lawyers, other visitors, and frequently possess radios and television sets. However, Gendreau and Bonta (1984) argue that the conditions of confinement in many of the sensory deprivation and isolation experiments are more severe than those found in today's segregation units. They argue that, since these field and laboratory experiments show little support for the position that sensory deprivation and isolation are damaging, the conclusions drawn from these studies are especially informative and relevant.

Zubek, Bayer, and Shephard (1969) define the concept of segregation in a more detailed manner, arguing that it is comprised of three main components: social isolation, sensory deprivation, and confinement. They believe that the nature and the extent of all three components can vary significantly. Moreover, they contend that it is often unclear whether and how one component or a combination of components affect offenders' health. The nature and the extent of (1) the contacts with staff and other offenders, (2) the level of sensory deprivation (e.g., television, adequate reading material, programs and service, etc.), and (3) the overall conditions of confinement, may all affect offenders differently. Zubek, Bayer, and Shephard (1969) suggest that typical perceptual deprivation experiments inappropriately encompass social isolation and confinement. As a result, these studies cannot provide answers as to which

component affects offenders' mental health and functioning (i.e., the dependent variable). On the other hand, Scott and Gendreau (1969) argue that "sensory deprivation (absolute), perceptual deprivation (relative) and social isolation are three degrees of the same issue" (p. 337).

4. Selection of Subjects

4.1 Use of Volunteers. Experimental studies on segregation rely primarily on volunteers who agree to be segregated for a fixed period of time. Some authors have been reluctant to accept results of studies, which have relied on volunteers (Arbour, 1996; Jackson, 1983; Vantour, 1975). Walters et al. (1963) believe that the problem with using volunteers is that they are apparently not too frightened by the prospect of facing a few days of isolation, and they may have personality characteristics and past experiences which enable them to cope with, and remain unaffected by, segregation.

Approximately half of all offenders placed in segregation are confined against their will (Kane, 1997). In addition, it is questionable whether "voluntary" segregation is truly voluntary. Arguably, most offenders would prefer to remain in the general offender population if the threat to their personal safety was to be removed. Nonetheless, some authors claim that, based on their "clinical experience", offenders who initially strongly object to being placed in segregation appear to adapt as well as offenders who voluntarily request it (Ecclestone et al., 1974; Gendreau et al., 1972).

In addition to the issue of using volunteers, the use of alternative populations may also lead to limited generalization of findings. For example, the use of university students who, in general, exhibit good adjustment, stable personality, and higher levels of intelligence, education, and socioeconomic status may not lead to accurate comparisons with the segregated offender

population. Suedfeld et al. (1982) argue that attempting to use findings from these sources as an indication of what one can expect from offenders in segregation is inappropriate because it is not relevant to the phenomenon being evaluated. The high prevalence of severe mental disorders among segregated offenders' (Hodgins & Cote, 1991) makes any comparison with university student samples somewhat questionable.

4.2 Use of Offenders Involved in Human Rights Violation Litigation. Some studies on the negative effects of segregation have relied on segregated offenders who were involved in lawsuits alleging violations of their constitutional rights (Brodsky & Scogin, 1988; Grassian, 1983). Brodsky and Scogin (1988) conducted a study on the effects of segregation in a unit, which was under litigation for human rights violations. They found high rates of reported anger (86%), physical symptoms (79%), sleep disturbance (64%), anxiety (45%), and depression (36%) among segregated offenders. Grassian (1983) interviewed 15 offenders who were involved in a class action suit against the Department of Corrections for alleged violation of their Eighth Amendment provisions protecting them against "cruel and unusual punishment". Although his study argued that no offender knowingly exaggerated negative symptoms, he found severe perceptual changes, affective disturbances, and rapid subsidence of symptoms on termination of isolation in the majority of the offenders, and disturbances of thought content and problems of impulse control in a minority of cases.

Subjects involved in human rights violation litigation may have a special interest in demonstrating that their conditions of confinement have negative psychological and physiological effects. Therefore, the results of studies that rely on such offenders will always remain questionable. Further, Suedfeld et al. (1982) suggest that offenders engaged in litigation are perhaps not representative of average offenders; their reactions to segregation may not be the norm. Similarly, Gendreau and Bonta (1984) question the reliability of information of case studies performed by Jackson (1983). They suggest that

many of Jackson's interviewed offenders were notorious (e.g., Andy Bruce and Don Oag), far from representative, and had filed an inordinately large number of grievances, legitimate or otherwise, against the prison system.

4.3 Screening-out Subjects with Psychiatric History. A significant proportion of segregated offenders have a psychiatric history (Hodgins & Cote, 1991; Motiuk & Blanchette, 1997). However, some studies purporting to examine the impact of segregation have screened-out such subjects (Ecclestone et al., 1974; Gendreau et al., 1972). As a result, findings from these studies may be difficult to apply to the population of segregated offenders.

Hodgins and Cote (1991) report that in their sample of 32 long term segregated offenders, 31% suffered from some kind of severe lifetime mental disorder (25% schizophrenia, 3.1% major depression, and 3.1% bipolar disorder). The rate of schizophrenia among this sample was more than three times the rate of the disorder among non-segregated offenders. However, the rate of major depression in their sample was lower than the rate in the general offender population. This suggests that non-disruptive mentally ill offenders may remain in the general offender population, whereas offenders who are "disturbed and disruptive" are isolated from the general offender population.

Wormith, Tellier, and Gendreau (1988) evaluated the attributes of offenders in protective custody (PC) in a provincial institution. PC offenders typically can associate between themselves but do not have access to the same level of programs, services, and privileges offered to the general offender population. They found that PC offenders were more likely to have a history of psychiatric problems. They suggest that PC offenders' psychological weaknesses and idiosyncratic behaviours may not be well tolerated by the general offender population, and it appears that inappropriate behaviours are often punished regardless of the underlying basis for the conduct (Carriere, 1989; Gendreau,

Tellier, & Wormith, 1985; Rold, 1992). Consequently, numerous offenders with mental disorders are segregated (Gendreau et al., 1985; Rold, 1992).

Little research has focused on the effects of segregation on offenders with psychiatric conditions. Many authors argue that segregation can exacerbate some existing psychiatric conditions (Haney, 1993; Hodgins & Cote, 1991; Wadeson & Carpenter, 1976). For example, Wadeson and Carpenter (1976) concluded that segregation stimulates hallucinatory activity and provokes paranoia among some mental health patients.

The existence of psychiatric disturbance may very well be a defining characteristic of the population of segregated offenders. Moreover, findings from the studies reviewed above underline the importance of not restricting research samples to those without a history of psychiatric disorders.

5. Reasons for Segregation

Offenders may voluntarily request segregation or be involuntarily segregated for a multitude of reasons (Kane, 1997; Gendreau et al., 1985; Wormith et al., 1988). The most common reasons given by offenders for seeking various forms of PC and segregation include: conflicts in the general population (e.g., gambling and drug debts); the nature of the offender's offense (e.g., sexual offender); suspected of being an informant; personality problems; phobias (including fear of gays); being the target of sexual aggression; and escaping the crowded and often violent atmosphere of maximum security (Gendreau et al.,1985).

Approximately fifty percent of segregation placements are involuntary (Kane, 1997). Research on segregation thus far has failed to assess the effects of long term segregation on these offenders. Such an omission has rendered

generalization of findings even more difficult. For example, the underlying reasons for segregating offenders may influence their abilities to cope with the experience (Weinberg, 1967). Whether they view their placement in segregation as a result of their own behaviour or as the result of being an innocent victim of circumstances beyond their control may influence their ability to cope with the more restrictive regime of segregation.

6. Attrition

Some segregation studies reported attrition among subjects participating in the experimental condition (i.e., segregation), and provided little, if any, explanations (Ecclestone et al., 1974; Walters et al., 1963; Weinberg, 1967; Zubek et al., 1969). For example, Ecclestone, Gendreau, and Knox (1974) reported a 32% attrition rate, and Weinberg (1967) reported a 68% attrition rate. Even when more than adequate monetary incentives are provided, attrition has been reported (Bexton, Heron, & Scott, 1954; Zubek et al., 1969).

Attrition is a major drawback to psychological research in general. However, the problem with attrition is especially relevant to the evaluation of the psychological effects of segregation. Subjects who decide to no longer participate in the experiment may be the same individuals who would not cope well with the conditions of segregation and would be negatively affected by them.

7. Reliance on Cross-sectional and Longitudinal Research

Cross-sectional research is inadequate for evaluating the effects of segregation. Results of cross-sectional segregation research are limited to the identification of differences between groups (segregated and non-segregated).

The results of this type of research do not allow for inferences concerning the causes of these differences (Suedfeld et al., 1982). Nevertheless, after conducting a cross-sectional study and observing poorer mental and physical health among segregated offenders than among non-segregated offenders, some authors have quickly attributed the cause of such poorer health to segregation (Brodsky & Scogin, 1988; Miller & Young, 1997). The possibility that segregated offenders already were of poorer mental and physical health prior to their segregation must at least be considered as an alternative explanation in cross-sectional studies.

8. Duration and Indeterminate Nature of Stay

Another problem with current experimental studies on segregation surrounds the issue of the length and indeterminate nature of the stay (Jackson, 1983; Suedfeld et al., 1982). In previous experimental research, the length of stay is limited to ten days or less (e.g., 2 days: Gendreau et al., 1970; 4 days: Walters et al., 1963; 5 days: Weinberg, 1967; 7 days: Gendreau et al., 1972; Gendreau et al., 1968a; 1968b; Zubek et al., 1969; 10 days: Ecclestone et al., 1974). Moreover, volunteers for these studies know exactly when the experiment will end, and that they can end their participation at will.

The reality of segregation is that the length of stay is always unknown, and more than 80% of offenders spend more than 10 days in segregation at any one time (Kane, 1997). Suedfeld et al. (1982) argues that making general statements on the effects of segregation without qualifying the length of stay is inappropriate. Bonta and Gendreau (1995) specifically state that their conclusion that segregation is not detrimental only applies to periods of segregation of 10 days or less. As these studies confirm, generalizing the results of experimental studies beyond 10 days is questionable.

9. Lack of Comparison Group

Some studies utilizing structured and non-structured interviews with segregated offenders have failed to include a comparison group of non-segregated offenders (Brodsky & Scogin, 1988; Grassian, 1983). Brodsky and Scogin (1988) interviewed 45 segregated offenders about their confinement in solitary confinement but did not include a control group. Although they reported disturbing negative psychological and physiological effects, since no comparison group was included, the results are of little value because it remains undetermined whether offenders in the general offender population would have reported similar effects about their confinement in the general offender population.

10. Offender/Staff Interaction and the Punitive Reality of Segregation

Several authors have suggested that the relationship between staff and offenders is an important factor which may affect how offenders cope with segregation (Benjamin & Lux, 1977; Bonta & Gendreau, 1995; Carriere, 1989; Ellis, 1993; Gendreau & Bonta, 1984; Korn, 1988; Suedfeld et al., 1982; Vantour, 1975; Wormith et al.,1988). Offenders may be more affected by the way they are treated by correctional staff than by the conditions of confinement typically found in North American segregation units (Bonta & Gendreau, 1995; Gendreau & Bonta, 1984; Vantour, 1975). For example, Vantour (1975) argues that negative psychological impacts of segregation are attributable not so much to the physical environment *per se*, but to events surrounding the confinement, including:

> the reason for being segregated; the process by which the prisoner is segregated; the physical facilities and routine; the lack of contact with staff and other prisoners; the length of the period of segregation; the uncertainty as to when a prisoner will be released; and the process by which the prisoner is returned to the population. (p. 65)

Similarly, Gendreau and Bonta (1984) argue that negative effects of solitary confinement may be more the result of:

> the fact [offenders] were not given clear criteria as to why they were placed in solitary, their review process was amorphous, and they were not certain as to how they could improve behaviorally so as to eventually leave. They claimed they were also gratuitously harassed in petty ways by the guards. (p.474)

Bonta and Gendreau (1995) argue that there is some evidence that when offenders are treated capriciously by management or correctional staff, psychological stress can result even in the most humane of prison environments. Harassment, physical roughness, enforcement and non-enforcement of rules, and unpredictable withholding of privileges may play a greater role than complaints about physical conditions, the social isolation and the sensory deprivation associated with segregation (Suedfeld et al., 1982).

Many authors have found that contrary to legislative and policy provisions, the management of administrative segregation is based on a punitive philosophy, and that segregated offenders have fewer rights, privileges, and access to programs and services than offenders in the general offender population (Arbour, 1996; Carriere, 1989; Gendreau et al., 1985; Kane, 1997; Tellier, Wormith, & Gendreau, 1984; Vantour, 1975). For example, Arbour (1996) concluded that the Correctional Service of Canada's management of administrative segregation

was not in accordance with the law and its policies, and demonstrated a systemic "prison culture which did not value individual rights" (p. xiii).

Wormith, Tellier, and Gendreau (1988) reported that correctional employees often have negative views towards, and discriminate against, segregated offenders. They found that PC offenders complained about the attitudes of correctional staff towards them and the adverse psychological effects of being in PC, whereas offenders in the general population were more likely to complain about institutional living conditions, rules, and regulations. Similarly, Carriere (1989) states that PC offenders are often treated in a demeaning manner by correctional staff. Further, he contends that segregated offenders are treated as maximum-security offenders regardless of the security risk they pose.

For generalization purposes, the evaluation of the effects of segregation must include real interactions between staff and offenders, and should not be limited to courteous interactions typically found in laboratory experiments.

11. Personality

The offenders' personality or temperament may play a role in how they will be affected by segregation. Some personality characteristics may reduce tolerance for segregation, while other characteristics may enhance it (Suedfeld et al., 1982; Walters et al., 1963). Little, if any, research on the effects of segregation has focused on personality. Assessment of personality must be included in segregation research in order to identify offenders' abilities and predisposition's to cope with segregation.

12. Other Factors

Segregation may have detrimental parole consequences, reduce an offender's chances of being admitted to a halfway house, and affect an offender's security classification (Carriere, 1989; Gendreau et al.,1985; Tellier, Wormith, & Gendreau, 1984). Knowledge of these consequences may negatively affect how offenders adapt to segregation. Further, an offender who was housed in a single cell prior to segregation may be reassigned to a "double-bunked" cell after a placement in segregation. This future loss of privacy may also affect how offenders cope with the experience of segregation.

Other complaints may also influence the segregation experience such as cold food and delayed response to requests for assistance (e.g., medication, telephone calls, counselors, reading material, etc.) (Suedfeld et al., 1982). In the segregation environment, these complaints cannot be viewed as trivial because they are often the only distractions available to break the monotony of the segregation experience.

HYPOTHESES

1. Segregation for up to 60 days will negatively affect the mental health and psychological functioning of offenders.

    a. It will lead to increase internalizing symptoms (e.g., depression, anxiety, hopelessness, and suicide ideation).

    b. It will lead to increase externalizing symptoms (e.g., hostility, aggression, and anger).

2. Segregation for up to 60 days will negatively affect offenders' physical functioning. That is, it will lead to increased reporting of somatic symptoms (e.g., sleep patterns, heart palpitations, and loss of appetite and weight), and decreased vigor-activity.

3. Segregation for up to 60 days will impact on offenders' perception and cognitive functioning. It will have a negative effect on specific cognitive processes (e.g., memory disturbances and problems with attention).

4. The experience of segregation will lead to a devaluation of interpersonal relationships.

5. Involuntarily segregated offenders will be more affected by segregation than voluntarily segregated offenders.

METHOD

Design and Procedures

Participants

Participants included offenders from Kingston, Collins Bay and Millhaven Penitentiaries who had either been (a) placed in administrative segregation and remained in segregation for 60 days (quasi-experimental group), or (b) randomly selected from the general offender population and remained in the general offender population for 60 days (comparison group). Data were collected over an eight-month period beginning in October 1997.

Testing and Procedures

Senior psychologists at the selected institutions supervised the data collection. The Psychologists selected and trained/oriented three research assistants (RAs) concerning institutional security protocols and the use of the psychological testing instruments. The RAs were graduates or students of psychology (one 4th year student, one MA candidate, and one MA).

Offenders who were just placed in administrative segregation (voluntary and involuntary) and provided their informed consent (see Appendices A and B for the consent and information forms), were asked to complete written psychological tests and take part in a structured interview. After each session, participants were debriefed (see Appendices C and D). The same procedure was undertaken 30 days later and again 60 days later if the offenders remained segregated. Non-segregated offenders were selected at random and underwent the same testing procedures at the same intervals.

Measures

The initial testing session (session one) lasted approximately two hours. In addition to the battery of tests, which were utilized at each session, the initial session included a general measure of intelligence and a short personality inventory. Because performance on these additional instruments was not expected to fluctuate over 60 days, these measures were administered only once. The follow-up assessments conducted at 30 days (session two) and 60 days (session three) were therefore shorter, each lasting approximately one hour. The comparison group underwent the same testing procedure as the segregated group.

The measures, which were selected for use in this study, were chosen based on several criteria. Measures were selected which possessed acceptable psychometric properties, had a short administration time, and had been previously used with offender samples. Consideration was also given to measures, which had been used in previous segregation research. Table 1 illustrates the list of measures, which were selected for use in this study and their respective alphas.

Table 1: Measures Used in This Study

Measures (Initial Assessment Only)	Alpha
Interview Assessment	N/A
NEO Personality Inventory (Short Form)	
Neuroticism	.84
Extraversion	.70
Openness	.61
Agreeableness	.71
Conscientiousness	.80
Shipley	N/A
Measures (All Three Sessions)	**Alpha**
Aggression Questionnaire	.89
Balanced Inventory of Desirable Responding (short form)	.69*
Beck Depression (abbreviated)	.89
Brief Symptom Inventory	
Somatization	.86
Obsessive-compulsive	.83
Interpersonal	.79
Depression	.84
Anxiety	.83
Hostility	.85
Phobic Anxiety	.80
Paranoid Ideation	.80
Psychoticism	.66
Holden Psychological Screening Inventory	.84
Hopelessness Scale	.89
Interview Assessment	N/A
State-trait Anxiety Inventory (State-short form)	.83
WAIS Sub-test: Digit Span	N/A
WAIS Sub-test: Digit Symbol	N/A

Note. * Items 4, 7 & 9 were removed to improve psychometric properties.

Aggression Questionnaire (AQ; Buss & Perry, 1992)

The Aggression Questionnaire is a widely used self-report measure of externalizing behaviours and feelings. This 29-item instrument is rated on a 5-point scale of least to most characteristics. There are four subscales: Physical Aggression; Verbal Aggression; Anger; and Hostility. This scale has been used with offender samples (e.g., Williams et al., 1996).

Although this measure is relatively new, there is strong evidence for its reliability. The alpha coefficients of internal consistency for the subscales have been reported to range from .72 to .89 (Archer, Kilpatrick, & Bramwell, 1995; Buss & Perry, 1992). Test-retest reliability over a nine-week period has been reported to range from .72 to .80 (Buss & Perry, 1992). Although there is a relatively small number of items per scale, the coefficients indicate that the stability over time is adequate.

Convergent validity has been reported. Aspects of temperament and other traits have been found to correlate strongly with relevant subscales, as well as with perceptions of others (Buss & Perry, 1992). In addition, the Verbal, Anger, and Physical Scales of the AQ have been reported to be highly correlated with similar scales on the Aggression Inventory (Archer et al., 1995). The validity of the measure has been supported by the ability of the Physical Aggression subscale to predict enjoyment of fights and willingness to join in a fight, but not to perceptions of others' hostility (Russell, 1995; Russell & Arms, 1995). The Anger subscale was able to predict those who would expect a riot to ensue due to insults (Russell & Arms, 1995).

Balanced Inventory of Desirable Responding (BIDR; Paulhus, 1984)

The BIDR is composed of 40 items, which are rated on a 7-point scale. This instrument has two subscales: Self-Deception and Impression Management. The Self-Deception Scale assesses self-motivated biased responding that portrays the respondent more positively. The Impression Management Scale assesses other-motivated responding, that is, attempting to present a favourable impression on others. This measure has been used with offender samples (e.g., Kroner & Weekes, 1995).

Convergent validity of this scale has been supported by the report of a significant relationship between the subscales of this instrument and the Marlowe-Crowne Social Desirability Scale (Dutton & Hemphill, 1992). Socially desirable responding as measured by this scale has also been negatively associated with reports of committing violence and verbal aggression on the Conflict Tactics scale, as well as reported feelings of anger on the Multidimensional Anger Inventory (Dutton & Hemphill, 1992). Discriminant validity has been suggested by the finding that those with different personal ideals (i.e., ingratiators, exemplifiers, and intimidators) scored differently on the Impression Management subscale (Verkasalo & Lindeman, 1994).

The psychometric properties of this measure have been examined with offender samples. Kroner and Weekes (1996) reported the existence of three factors within an offender sample: Impression Management (IM); Denial of the Negative (DN; unwillingness to admit undesirable characteristic to the self), and; Over-Confident Rigidity (OCR; self-perception of infallibility and rigidity). The internal consistency of the three-factor solution ranged from .58 (OCR, 9 items) to .84 (IM, 17 items). The DN and the OCR scales have been found to discriminate between offenders who admit and those who deny or partially deny committing their offences. Moreover, the IM and OCR scales have been found

to differentiate between intake and upcoming release offenders. The five items, which loaded most strongly on these three scales, were selected, creating a 15 item short form of the BIDR.

Beck Depression Inventory - Short Form (BDI-S; Beck & Beck, 1972)

The BDI is a widely used instrument, designed to measure the severity of cognitive, behavioural and physiological symtomatology in depression over the last week. For each item, four alternative statements which reflect differential severity regarding functioning are provided. This measure has been used with offender samples (e.g., Coleman et al., 1992; Day, 1993; Eyestone & Howell, 1994; Gudjonsson, 1984; McGuire et al., 1995; Smyth, Ivanoff, & Jang, 1994). Although the full version has 21 items, there is a short form available, which is composed of 13 items (BDS-S; Beck & Beck, 1972). The BDI-S was selected for use in the present study.

The psychometric properties of this instrument (both forms) are strong, and there is a high concordance between the BDI and the BDI-S. Beck and colleagues (Beck & Beck, 1972; Beck, Rial, & Rickles, 1974) reported correlation's of .89 to .97 between the two forms. The short form has also been found to be correlated well with clinician's ratings of depression (Beck & Beck, 1972; Beck et al., 1974; Scogin et al., 1988; Stukenberg et al., 1990).

The internal consistency of this instrument is good as alpha coefficients have been reported to range from .74 to .90 (Beck & Beamesdorfer, 1974; Foelker et al., 1987; Gould, 1982; Leahy, 1992; Scogin et al., 1988; Vredenberg et al., 1985). Although the initial use of the BDI-S dictated an uni-dimensional solution, others have reported the existence of two factors (Leahy, 1992; Foelker et al., 1987; Reynolds & Gould, 1981; Volk et al., 1993).

However, there is some indication that the BDI-S suffers from poor accuracy, identifying a high number of false positives (poor specificity; Volk, Pace, & Parchman, 1993). Using a cut-off point of 8, the sensitivity and specificity of the BDI-S have been reported at .71 to .79 and .77 to .83 respectively (Nielson & Williams, 1980; Stukenberg et al., 1990).

Brief Symptom Inventory (BSI; Derogatis, 1992)

This 53-item inventory was designed to screen for psychological symptom status in the last week. This measure is essentially a short form of the Symptom Checklist - 90 - Revised (SCL-90-R), and correlation's between the two forms are reported to be high (e.g., .92 to .98; Derogatis, 1992). This instrument takes about 10 minutes to complete, and yields 9 primary dimension scores (Somatization; Obsessive-Compulsive; Interpersonal Sensitivity; Depression; Anxiety; Hostility; Phobic Anxiety; Paranoid Ideation; and Psychoticism). In addition there are three global indices (Global Severity; Positive Symptom Distress Index; and Positive Symptom Total). This measure has been used with offender samples (e.g., Boulet & Boss, 1991; Singer et al., 1995), and in segregation research (e.g., Miller, 1994).

The scales demonstrated good internal consistency, with alpha coefficients reported to range from .71 to .89 (Boulet & Boss, 1991; Broday & Mason, 1991; Derogatis & Melisaratos, 1983). Test-retest reliability is also excellent with a range from .68 to .91 for the subscales (Derogatis & Melisaratos, 1983).

This scale has demonstrated concurrent validity with (1) assessments of negative affect, life satisfaction, and affect intensity (Sheldon, 1994), (2) the Beck Anxiety Inventory (Osman et al., 1993), (3) the Cognition Checklist (Osman et al., 1995), and (4) the MMPI (Boulet & Boss, 1991). Discriminant validity has also been demonstrated for normative groups compared to: those with Hoarding

problems (Frost, Krause, & Steketee, 1996); sexually dysfunctional patients (Derogatis & Meyer, 1979); and violent men in relationships (Gavazzi, Julian, & McKenry, 1996). Moreover, this measure is sensitive to treatment effects (Piersma, Reaume, & Boes, 1994).

Holden Psychological Screening Inventory (HPSI; Holden, Mendonca, Mazmanian, & Reddon, 1992)

This 36-item inventory, which measures psychosocial adjustment, is rated on a 5-point scale. In addition to providing a total score, this is used to assess three higher order components of psychopathology: Psychiatric Symtomatology (psychotic processes, anxiety and somatic concerns), Social Symtomatology (inadequate or deviant socialization and impulse expression) and Depression Symtomatology (feelings of pessimism, poor self-esteem, and social introversion). This instrument has been used with offender samples (e.g., Holden & Grigoriadis, 1995; Reddon et al., 1996).

The alpha coefficients of internal consistency have been reported to range from .66 to .90 for the subscales and total score (Holden, 1991; Holden et al., 1992). This scale has also been found to have convergent validity with staff ratings (Holden et al., 1992). Moreover, the HPSI has been found to be sensitive to the effects of psychological interventions (Reddon et al., 1996). The subscales of the HPSI have also shown concurrent validity with the MMPI-2 and the BPI (Holden & Grigoriadis, 1995), and the NEO Five Factor Inventory (Costa & McCrae, 1989; Holden, 1992).

Hopelessness Scale (BHS; Beck & Steer, 1988)

This 20-item T/F scale measures negative experiences and pessimism concerning the future. Hopelessness is thought to be interrelated with the constructs of depression, and to be a good predictor of suicidal ideation (Ivanoff & Jang, 1991; Steer et al., 1993). This measure has been used with offender samples (e.g., Ivanoff & Jang, 1991; Power & Beveridge, 1990; Smyth et al., 1994).

The internal consistency of this scale is good. Alpha coefficients have been reported to be between .82 and .93 (Beck & Steer, 1988), and item-total correlations ranged from .39 to .76 (Beck et al., 1974). The construct of hopelessness has been hypothesized to be state-like (as opposed to a trait), and thus, unstable. Due to this factor, test-retest reliabilities have been relatively low, ranging from .66 to .94 (Beck & Steer, 1988; Holden & Fekken, 1988).

Concurrent validity has been reported between this measure and indicators of suicide risk (Lennings, 1992). Concurrent validity has been shown with clinical ratings of hopelessness (Beck et al., 1974) and with other tests which measure negative attitudes about the future (Beck et al., 1974). Evidence for discriminant validity has been presented (e.g., differentiating heroin-addicted from alcoholic women; Beck, Steer & Shaw, 1984). Finally, this measure is sensitive to treatment effects (Beck et al., 1974).

Interview Assessment

A structured interview was developed (see Appendix D for the session 1 interview for segregated inmates) and was administered at each testing session. The initial interview was more comprehensive and required an additional five

minutes of testing time. Aspects of the interview have been taken from existing scales and interviews, and cover the following areas which were not assessed by the other psychological measures: present feelings; history of segregation (e.g., priors, reasons); significant events happening over the last week - stressors; time allotment; social relationships; suicidal ideation; and social and interpersonal skills.

Neuroticism, Extroversion, Openness, Personality Inventory (NEO-FFI; Costa & McCrae, 1992)

The NEO was designed to assess the "big five" personality constructs: Neuroticism; Extroversion; Openness; Agreeableness; and Conscientiousness. The NEO has been used previously with offender samples (e.g., Lehne, 1994). The long form of this inventory is composed of 181 items. However, for this investigation the short form was selected. This version is composed of 60 items rated on a 5-point scale.

The NEO (short form) is relatively new and few studies of the psychometric properties of this measure have been reported. The manual, however, presents adequate evidence of the psychometric properties. Internal consistency is reported to be acceptable, with alpha coefficients ranging from .73 to .95 (Costa & McCrae, 1992; Holden & Fekken, 1994) for the subscales. Support for the construct validity of this scale has been reported with the HPSI (Holden, 1992).

Shipley Institute of Living Scale-Revised (Shipley, 1940)

The Shipley, also known as the Shipley-Hartford Retreat Scale, is a widely used screening measure of overall intellectual ability. This instrument consists of

a 40 item (multiple choice) Vocabulary subtest and 20 item (open-ended) Abstract Reasoning subtest. The Shipley yields six summary scores: vocabulary; abstraction; total test; conceptual quotient; abstraction quotient; and an estimate of IQ. This instrument has been used with offender samples (e.g., Fowles & Tunick, 1986; Hooper & Evans, 1984; Ingram et al., 1985; Sutker & Moan, 1973; Wood, Conn, & Harrison, 1977), and in segregation research (Walters et al., 1963; Weinberg, 1967).

Shipley (1940) provided evidence for the internal consistency of the scales (.87 for Abstractions to .92 for Total test). Test -retest reliability for periods of three months have been reported to range from .57 to .88 for the factors (Ruiz & Krauss, 1967; Shipley 1940).

Validity has been examined in terms of the relationship of the Shipley with the Wechsler Adult Intelligence Scale (WAIS, entire test as well as subscales), and the Wechsler-Bellevue Intelligence Test (Fowles & Tunick, 1986; Frisch & Jessop, 1989; Heinemann et al., 1985; Retzlaff, Slicner, & Gibertini, 1986; Shipley, 1940; Weiss & Schell, 1991). Concurrent validity has also been supported with this scale and the Hemmon-Nelson Tests of Mental Ability (Watson et al., 1992). The discriminant validity of the Shipley has also been presented (identifying disruptive youths; Hooper & Evans, 1984).

State-Trait Anxiety Inventory (Spielberger, 1983)

This measure is composed of 40 items which assess two distinct but related aspects of anxiety: (a) state anxiety: transitory, subjective (nervousness, worry, high arousal), and a function of situational stress; and (b) trait anxiety: relatively stable differences in anxiety proneness (how one perceives or approaches stressful situations). Respondents indicate how they feel "right now" based on a four point scale. This measure has been used extensively in

research with clinical populations and with offender samples (e.g., Lutz, 1990; Segal, Hobfoll & Cromer, 1984).

The internal consistency of this measure is high; coefficient alphas have been reported at .87 (Knight, Waal-Manning, & Spears, 1983; Spielberger, 1983), and Kuder-Richardson (KR-20) correlations (split-half and odd-even) have been reported to range from .45 to .85 (Metzger, 1976). As would be expected, the test-retest correlation coefficients are low (r = .16 to .62) for the State scale, indicating that this measure is sensitive to fluctuations due to situational variations (Metzger, 1976; Nixon & Steffeck, 1977; Spielberger, 1983).

The state scale has been found to differentiate persons who were facing a stressful situation from those who were not (Metzger, 1976). Convergent validity has been reported with measures of depression (MMPI, BHS, and the BDI; Novy et al., 1993).

For this study a six-item short form was used. This short form has been found to display acceptable reliability and validity. In fact, the scores provided by the short form in previous research are similar to those of the long form (Matreau & Bekker, 1992).

Additional Data Collection

Physical Conditions

Research assistants gathered information on the physical layout of the segregation units (see Appendix E for the conditions of confinement checklist).

Offender Intake Assessment

All offenders sentenced to penitentiaries (i.e., for prison terms exceeding two years) must complete the Offender Intake Assessment (OIA) prior to their penitentiary placement. In most instances, the OIA lasts eight weeks, and allows CSC to render informed decisions with respect to placement, classification, and programming. During the OIA, information on offenders is collected and stored on the computerized Offender Management System (OMS).

OIA information was retrieved on offenders' current and past criminal history and the seven need domains (Employment, Marital/Family, Associates, Substance Abuse, Community Functioning, Personal/Emotional and Attitude). Offenders' scores on the Statistical Information on Recidivism (SIR) were also retrieved. The SIR score provides an estimate of the probability that an individual will re-offend within three years after release. Each offender's total score on the SIR scale can range from –30 (very poor risk) to + 27 (very good risk). There is evidence that the SIR Scale possess good reliability and validity (Bonta, Harman, Hann, & Cormier, 1996; Bonta, Pang, & Wallace-Capretta, 1995; Hann & Harman, 1989). Further, this scale has shown a good ability to predict release outcome (Hann & Harman, 1988; Motiuk & Porporino, 1989).

It should be noted that sex offenders and homicide offenders, as a group, score favourably on this scale as they are considerably older than the general prison population and typically have less exposure to the Criminal Justice System (Motiuk and Blanchette, 1997).

RESULTS

Descriptive Findings

Conditions of Confinement

Information on the conditions of confinement of segregation units at Collins Bay, Kingston and Millhaven penitentiaries was collected. Table 2 describes the physical conditions at each penitentiary. Conditions of confinement at Kingston Penitentiary are divided into two sections because one of the segregation units is noticeably different from the others.

Table 2: Conditions of Confinement in Segregation at Collins Bay, Kingston and Millhaven Penitentiaries

	Institutions			
Characteristic	**Collins Bay**	**Millhaven**	**K.P. 1**	**K.P. 2**
Cell size (sq.ft)	80.6	57.2	56	46
Ceiling height (ft./in.)	7'10"	11'8"	9'	11'5"
Number of cells per range	19	16	20	37
Solid door	Yes	Yes	Yes	No
Yard size (sq.ft.)	750	1200	1500	1500
Concrete wall around yard	Yes	Yes	Yes	Yes
Yard covered overhead with wired fence	Yes	Yes	Yes	Yes

Participation and Attrition

The refusal rate for participating in this study was 44% for segregated and 40% for non-segregated offenders. Table 3 illustrates the number of completed sessions broken down by Group (i.e., segregated vs. non-segregated) and institutions. It shows that 83 segregated offenders and 53 non-segregated

offenders participated in this study. However, complete data for all three sessions (60 days) were only available for 23 segregated and 37 non-segregated offenders.

The loss of participants from the segregated group was primarily due to releases to the general offender population or transitional units (i.e., protective custody), or transfers to other institutions. True attrition, the refusal to participate in a subsequent session, occurred in nine cases (10.8%). It should be noted that true attrition included cases in which offenders expressed their intent to participate in the study but their conduct jeopardized the personal safety of the RAs (e.g., threats, and one incident in which an offender attempted to grab a RA). The average elapsed time after placement in segregation for session one, two and three was 3.6, 29.8 and 57.8 days respectively.

For non-segregated offenders, the loss of participants was mainly due to transfers to other institutions and placement in segregation. True attrition occurred in only two cases (3.8%).

Table 3: Number of Completed Sessions (S.1, S.2, & S.3) broken down by Group and Institutions

	Segregated (n=83)			**Non-Segregated (n=53)**		
Institution	**S.1**	**S.2**	**S.3**	**S.1**	**S.2**	**S.3**
Collins Bay	31	8	7	19	16	16
Kingston	19	12	11	20	17	14
Millhaven	33	12	5	14	13	7
Total	83	32	**23**	53	46	**37**

Table 4 shows a breakdown of institutions and the legal reasons for placement in administrative segregation. Initially (i.e., upon placement), 39% (n = 32) of segregated offenders were voluntary cases whereas 61% (n = 51) were involuntary cases. Moreover, voluntary cases were all seeking protection, whereas the majority of involuntary cases (71%, n = 36) were legally placed in administrative segregation for jeopardizing the safety of other offenders, staff, or the security of the institution. Noteworthy, after 60 days the percentage of voluntary cases increased to 57% (n = 13) and the percentage of involuntary cases decreased to 43% (n = 10).

Table 4: Breakdown of Institutions and Reason for Segregation by Type of Segregation

	Voluntary Section 31*				Involuntary Section 31*			
Institution	**(1)**	**(2)**	**(3)**	**Total**	**(1)**	**(2)**	**(3)**	**Total**
Collins Bay	4	0	0	4	6	17	4	27
Kingston	15	0	0	15	1	3	0	4
Millhaven	13	0	0	12	2	16	2	2
Total	32	0	0	**32** (39%)	9	36	6	**51** (61%)

Note. * Section 31 of the *CCRA* provides the reasons for placement in administrative segregation: (1) an offender's own safety is in danger; (2) an offender may jeopardize the safety of others or the safety of the penitentiary; and (3) an offender may interfere with a criminal investigation or with a serious disciplinary matter.

Demographics

Age

Using t-tests, segregated offenders were found to be younger (M = 28.9) than non-segregated offenders (M = 32.20, t (134) = 2.66, p < .01). The age of segregated and non-segregated offenders ranged from 20 to 54 years old.

Bivariate correlation analyses showed that Age was not significantly correlated with any measure (i.e., dependent variable).

Race

The Offender Intake Assessment (OIA) was used to provide background information on the offenders. OIA information on race was available on 119 offenders: 66% of offenders were Caucasian; 25% black; 7% aboriginal, and; 3% from other visible minority groups. Among segregated offenders (n = 73), the percentage of Caucasians, blacks, aboriginal and other visible minority groups was 64%, 27%, 7% and 1% respectively.

Education

OIA information was used to assess the educational background of offenders. Using chi-square analyses, Table 5 indicates that segregated and non-segregated offenders did not significantly differ in educational background.

Table 5: Education OIA Indicators for Segregated and Non-segregated Offenders

	Non- Seg.	Seg.	χ^2	Sign.
OIA Indicator	**% (n=39)**	**% (n=54)**		
Under Grade 8	23.1	27.8	0.26	ns
Under Grade 9	51.3	56.6	0.26	ns
No High School Diploma	84.6	83.0	0.04	ns
Learning Difficulty	26.3	33.3	0.52	ns
Learning Disability	21.1	22.6	0.03	ns

Criminal History

OIA data also provided criminal history information for 131 offenders. As table 6 shows, chi-square analyses reveal no significant difference between segregated and non-segregated offenders on past and current offence history. Similar non-significant findings were obtained on history of disciplinary infractions (χ^2 (1, N = 84) = 1.93, p = 0.17), escape/UAL (χ^2 (1, N = 91) = 0.95, p = 0.33) and failure on conditional releases (χ^2 (1, N = 91) = 0.95, p = 0.39).

Table 6: Offence History (Past and Current) of Segregated and Non-Segregated Offenders

Offences	Non- Seg. % (n=49)	Seg. % (n=82)	χ^2	Sign.
Homicide	10.2	15.9	0.83	ns
Robbery/Assault	76.3	82.5	0.54	ns
Sexual Assault	15.8	15.8	0.00	ns
Property	31.4	33.3	0.04	ns
Drugs	16.3	14.6	0.07	ns
Other*	34.2	45.6	1.23	ns

Note. * e.g., arson, weapon and forcible confinement.

With respect to session one segregated offenders (n = 83), nine were serving life sentences (11%). The average sentence length (excluding life sentences; n = 74) imposed by the Courts for their index offence was 6.97 years.

Of the 53 session one non-segregated offenders, 13 offenders were serving life sentences (25%). The average sentence length (excluding life sentences; n = 40) imposed by the Courts for their index offence was 5.98 years.

Case Needs

T-tests were conducted to determine whether segregated offenders (n = 83) differed significantly from non-segregated offenders (n = 53) in terms of need domains identified by the OIA. By assigning a value of one for the presence of each OIA indicator, Table 7 shows that segregated and non-segregated offenders did not significantly differ on any of the OIA need domains.

Table 7: Need Domains at OIA for Segregated and Non-Segregated Offenders

	Non-Seg. (n=53)	Seg. (n=83)	t	Sign.
Needs Domain*	**M**	**M**		
Employment	9.89	9.22	0.49	ns
Marital/Family	5.43	5.87	0.45	ns
Associates	3.30	3.37	0.14	ns
Substance Abuse	7.68	7.69	0.01	ns
Community Funct.	5.21	4.80	0.56	ns
Personal/Emotional	11.25	11.57	0.18	ns
Attitude	5.75	5.55	0.21	ns

Note. * A value of one was assigned to each OIA indicator present within each need domain. The means represent the average number of indicators per need domain.

SIR Scale

Using t-tests, segregated offenders were found to be higher risk of recidivism (M = -8.26) than non-segregated offenders (M = -1.07, t (110) = 4.70, p < .001). SIR scores of segregated and non-segregated offenders were clustered into the five typically reported risk categories: very poor risk (-30 to –9), poor risk (-8 to –5), fair risk (-4 to 0), good risk (+1 to +5), and very good risk (+6 to +27). Table 8 illustrates the percentage of segregated and non-segregated

offenders within each of the five risk categories. It shows that 80.9% (n = 55) of segregated offenders were grouped in the poor and very poor risk categories compared to only 45.4% (n = 20) for non-segregated offenders. Conversely, 54.6% (n = 24) of non-segregated offenders were grouped in the fair, good, and very good risk categories compared to only 19.1% (n = 13) of segregated offenders.

Table 8: Percentage Distribution of SIR Risk Groups for Segregated and Non-Segregated Offenders

	Non-Segregated	Segregated
Risk Grouping	**n (%)**	**n (%)**
Very Poor	10 (22.7)	41 (60.3)
Poor	10 (22.7)	14 (20.6)
Fair	9 (20.5)	2 (2.9)
Good	4 (9.1)	8 (11.8)
Very Good	11 (25.0)	3 (4.4)
Total	**44 (100)**	**68 (100)**

I.Q.

Estimates of I.Q. from the Shipley Institute of Living Scale-Revised (Shipley, 1940) were compared for segregated and non-segregated offenders. Non-segregated offenders (M = 97.25) possessed higher estimates of I.Q. than segregated offenders (M = 89.70, t (131) = 2.93, p < .01). Bivariate correlation analyses revealed that the estimate of I.Q. was significantly correlated with the WAIS Digit Symbol (r = .27, p < .01) and Digit Span (r = .48, p < .01) but unrelated to other measures.

Personality

Table 9 shows the differences between segregated and non-segregated offenders on the "big five" personality constructs as assessed by the NEO Personality Inventory (NEO-FFI; Costa & McCrae, 1992). Segregated offenders scored higher on Neuroticism (t (125) = 3.73, p < .001), and lower on Extraversion (t (129) = 2.26, p < .05), Openness (t (127) = 3.09, p < .01), Agreeableness (t (121) = 2.99, p < .01) and Conscientiousness (t (127) = 3.54, p < .001) than non-segregated offenders.

Table 9:NEO-FFI Sub-scores for Segregated and Non-Segregated Offenders

	Seg. (n=83)	Non-Seg. (n=53)	t (df)
Factors (T-Scores)	**M**	**M**	
Neuroticism***	54.9	48.4	3.73 (125)
Extraversion*	45.9	50.0	2.26 (129)
Openness**	49.0	53.5	3.09 (127)
Agreeableness	41.6	47.4	2.99 (121)
Conscientiousness***	45.2	51.2	3.54 (127)

Note. *p <.05, ** p < .01, *** p < .001

Social Desirability

A between/within-subject repeated measures univariate analyses was performed on the sample of 60 offenders who completed all three sessions (segregated (n = 23) and non-segregated offenders (n = 37)) using the BIDR as a dependent variable (DV). Non-segregated offenders showed significant higher

scores of impression management and self-deception than segregated offenders ($F(1, 58) = 11.36$, $p < .001$, $\eta^2 = .16$). Although the BIDR was significantly correlated with all dependent variables, due to the relationship between the BIDR and the independent variable Group (i.e., segregated versus non-segregated offenders), the BIDR was not used as a covariate for subsequent analyses.

Segregated and non-segregated offenders displayed significantly increased scores on impression management and self-deception across time ($F(2, 116) = 3.68$, $p < .05$, $\eta^2 = .06$). However, the ANOVA revealed no significant Time (i.e., session 1, 2 & 3) by Group interaction.

Mental Health and Psychological Functioning: Offenders Who Completed Three Sessions

Between/within-subject repeated measures univariate analyses were performed on the sample of 60 offenders who completed all three sessions (segregated ($n = 23$) and non-segregated offenders ($n = 37$)) using the eight measures as dependent variables (DVs). Table 10 presents the means and respective standard deviations for each of the eight measures for all three sessions.

Table 10: Session Means of Measures for Segregated (n = 23) and Non-Segregated (n =37) Offenders Who Completed All Three Sessions (S.1, S.2, & S.3)

		Means (SD)		
DV	**Group**	**S.1**	**S.2**	**S.3**
Aggression Questionnaire	Seg.	77.6 (14.2)	71.5 (17.7)	72.1 (21.2)
	Non-Seg.	68.2 (14.2)	66.9 (18.6)	65.5 (20.0)
Beck Depression	Seg.	8.8 (7.3)	6.3 (6.0)	6.6 (5.5)
	Non-Seg.	5.5 (5.6)	4.6 (5.8)	3.9 (5.0)
Brief Symptom Inventory	Seg.	0.92 (0.18)	0.62 (0.39)	0.62 (0.44)
	Non-Seg.	0.58 (0.46)	0.44 (0.42)	0.38 (0.40)
HPSI	Seg.	52.4 (15.6)	46.7 (11.6)	49.3 (11.2)
	Non-Seg.	40.9 (12.1)	39.2 (10.5)	37.8 (12.6)
Hopelessness Scale	Seg.	5.3 (4.6)	3.6 (3.6)	4.3 (4.3)
	Non-Seg.	4.3 (4.3)	3.1 (4.4)	2.8 (4.3)
State-trait Anxiety Inventory	Seg.	13.4 (4.4)	12.1 (4.0)	13.1 (4.5)
	Non-Seg.	12.0 (3.4)	9.8 (3.5)	9.6 (3.3)
WAIS Digit Span[1]	Seg.	8.7 (2.9)	9.5 (2.8)	9.5 (3.1)
	Non-Seg.	9.6 (2.5)	9.5 (2.6)	10.1 (2.3)
WAIS Digit Symbol[1]	Seg.	7.8 (2.4)	9.0 (3.1)	9.4 (3.3)
	Non-Seg.	8.7 (2.3)	9.9 (3.0)	10.5 (2.9)

Note. [1] Indicates scaled scores.

Aggression Questionnaire

The Analysis of Variance (ANOVA) on the AQ revealed no significant main effect or interaction.

Beck Depression Inventory - Short Form

Both segregated and non-segregated offenders reported significantly fewer depressive symptoms across time ($F(2,116) = 8.3$, $p < .001$, $\eta^2 = .13$). The ANOVA revealed no significant interaction (Time by Group).

Brief Symptom Inventory

Segregated offenders reported significantly more depressive symptoms than non-segregated offenders ($F(1,58) = 5.67$, $p < .05$, $\eta^2 = .09$). In addition, both segregated and non-segregated offenders reported significantly fewer depressive symptoms across time ($F(2,116) = 19.57$, $p < .001$, $\eta^2 = .25$). The ANOVA revealed no significant interaction.

Holden Psychological Screening Inventory

Segregated offenders reported significantly more problems in psychosocial adjustment than non-segregated offenders ($F(1,58) = 11.40$, $p < .001$, $\eta^2 = .16$). As well, segregated and non-segregated offenders reported significantly fewer problems in psychosocial adjustment across time ($F(2,116) = 6.27$, $p < .01$, $\eta^2 = .10$). The ANOVA revealed no significant interaction.

Hopelessness Scale

Segregated and non-segregated offenders did not significantly differ on this measure. However, segregated and non-segregated offenders indicated

significantly less hopelessness across time ($F(2,116) = 10.19$, $p < .001$, $\eta^2 = .15$). The ANOVA revealed no significant interaction.

State-Trait Anxiety Inventory

Segregated offender displayed significantly more state anxiety than non-segregated offenders ($F(1,58) = 8.09$, $p < .01$, $\eta^2 = .12$). Further, segregated and non-segregated offenders displayed significantly less state anxiety across time ($F(2,116) = 7.63$, $p < .001$, $\eta^2 = .11$). The ANOVA revealed no significant interaction.

WAIS Digit Span and Digit Symbol

Performance on the Digit Symbol improved significantly across time ($F(2,116) = 5.44$, $p < .01$, $\eta^2 = .09$). The ANOVA revealed no significant interaction. Performance on the Digit Symbol improved significantly across time ($F(2,116) = 22.56$, $p < .001$, $\eta^2 = .28$). The ANOVA revealed no significant interaction.

Segregated Offenders Who Completed Three Sessions Versus Segregated Offenders Who Completed One or Two Sessions

It was hypothesized that offenders who remain in segregation for longer periods of time would display more mental health and psychological functioning problems than those who are more quickly reintegrated into the general offender population. Therefore, using the eight measures as DVs, t-tests were performed to evaluate whether offenders who stayed in segregation for all three sessions (n

= 23) differed from segregated offenders who were released or transferred after session one or two (n = 51). True attrition cases (n = 9) were removed from the analyses because they could have been part of the group of offenders who stayed in segregation for all three sessions.

No significant difference was found between offenders who stayed in segregation for all three sessions (n = 23) and segregated offenders who were released or transferred after session one or two (n = 51).

Voluntary Versus Involuntary Cases

Using the eight measures as DVs, t-tests were completed to evaluate whether voluntary (n = 32) and involuntary (n = 51) cases differed in mental health and psychological functioning. Again, no significant difference was found between voluntary and involuntary cases.

Interview Assessment

Ten-point Rating Scales

A structured interview was conducted at each session. Table 11 shows the means and respective standard deviations at each session for the five ten-point scale questions. The mean represents the average score on the ten-point scale questions with one being negative and ten being positive.

Table 11: Session Means and Respective Standard Deviations of Interview Assessment Questions for Segregated (n = 23) and Non-Segregated (n =37) Offenders Who Completed All Sessions (S.1, S.2, & S.3)

		Means (SD)		
Questions	**Group**	**S.1**	**S.2**	**S.3**
How are you feeling today?	Seg.	5.5 (2.0)	6.0 (2.3)	5.9 (2.3)
	Non-Seg.	6.3 (2.2)	6.4 (2.1)	6.6 (1.8)
How important do you think it is to have friends?	Seg.	6.4 (2.7)	6.9 (2.5)	6.4 (2.7)
	Non-Seg.	7.9 (2.4)	7.9 (2.7)	7.5 (2.9)
Do you have any problem with sleeping?	Seg.	6.3 (2.5)	5.0 (3.1)	5.3 (2.7)
	Non-Seg.	4.0 (3.4)	3.1 (2.8)	3.1 (2.7)
Do you have any problem with appetite?	Seg.	3.1 (2.5)	3.6 (3.0)	3.7 (2.9)
	Non-Seg.	2.7 (2.7)	2.6 (2.7)	2.6 (2.5)
Do you have any problem concentration?	Seg.	3.6 (2.5)	3.5 (2.8)	3.9 (2.5)
	Non-Seg.	3.0 (2.1)	2.9 (2.1)	3.1 (2.4)

For each of the five questions, repeated measures univariate analyses were performed. No main effect or interaction was found on the following four questions: how are you feeling today?; how important you think it is to have friends?; do you have any problem with appetite?, and; do you have any problem with concentration. With respect to the question on sleeping, segregated offenders reported significantly more sleeping problems that non-segregated offenders (F (1,58) = 12.64, $p < .001$, $\eta^2 = .18$). Moreover, segregated and non-segregated offenders reported significantly fewer problems across time (F (2,116) = 4.04, $p < .05$, $\eta^2 = .07$). An ANOVA revealed no significant interaction.

Suicide Ideation

Offenders were asked questions on suicide ideation. Offenders who completed all three sessions (n = 60) were asked if they ever *thought* of committing suicide. At session one, 40% (n = 9) of segregated and 33% (n = 12) of non-segregated offenders responded "yes". When asked if they ever *attempted* suicide, 22% (n = 5) of segregated and 29% (n = 11) of non-segregated offenders said "yes".

At each session, offenders were asked if they thought of committing suicide in the last week: 17% (n = 4) of segregated offenders answered "yes" at session one, 4% (n = 1) at session two, and 4% (n = 1) at session three. As for non-segregated offenders, 14% (n = 5), 11%(n = 4) and 3% (n = 1) answered "yes" respectively.

Segregation Experience

Offenders who completed all three sessions (n = 60) were asked if they have ever been placed in segregation in the past. The vast majority of segregated (96%, n = 22) and non-segregated offenders (87%, n = 32) reported having being in segregation before. When asked how many times they have been placed in segregation, segregated offenders (M = 11.5) reported almost twice as many times than non-segregated offenders (M = 6.3).

DISCUSSION

Generalization Issues

For several reasons, this study represents the most comprehensive empirical review of the psychological effects of administrative segregation in today's Canadian federal correctional context. To begin with, this study applied the rigour of an experimental longitudinal design to a "real" segregation environment. Participants were actual inmates and not volunteers who agreed to be segregated for a fixed period of time. As such, the sample included actual inmates (some with existing psychiatric conditions and others who feared for their personal safety) who were voluntarily or involuntarily placed for periods up to 60 days in administrative segregation pursuant to the current administrative segregation process. They were segregated under "real" conditions of confinement, which included partial isolation and sensory deprivation. In addition, the participants were confronted with all of the uncertainties surrounding their segregation, such as (a) when the segregation period will end, (b) whether they will be transferred to another institution or returned to the general inmate population, and (c) whether their stay in segregation will affect their security classification, chances for parole or cell assignment. As well, some offenders may have been confronted with correctional employees who may have a punitive approach to managing segregated inmates. All these factors potentially affect one's experience of segregation and were not considered by studies using students or inmates who voluntarily agreed to be segregated for a fixed period if time. This study, therefore, examined the psychological effects of today's administrative segregation in federal corrections, and its results cannot be construed as unrealistic extrapolations of scenarios, which are too remote from the "real" experience.

Surprisingly, although various forms of administrative segregation have been used for decades, if not centuries, there has been only one longitudinal study previously conducted using an approximation of the empirical approach used in this study. Weinberg (1967) assessed the effects of segregation on 20 inmates who were involuntary placed in administrative segregation. The study, an unpublished doctorate dissertation, was however limited to a segregation period of only five days, and reported a 68% attrition rate among the experimental group. Again, no other study has been completed using offenders in a "real" segregation context.

The fact that the current longitudinal study was conducted with offenders who were subjected to "real" segregation conditions of confinement clearly enhances its ability to be generalized. Other factors should also be considered when assessing the issue of generalization of findings. Firstly, this study was conducted at several sites making the findings less subject to undue influence by factors such as the conditions of confinement, the cultural environment of a particular institution, or specific events and incidents.

Secondly, the penitentiaries selected have historically been perceived as some of the toughest in the country. These penitentiaries have some of the largest segregation units and heavily rely on administrative segregation to manage their difficult and high-risk inmate populations. It was therefore expected that segregated offenders in those penitentiaries would be more likely to be affected by the harsher realities of some of Canada's toughest penitentiaries.

Thirdly, the participation rate in this study was not atypical of studies which rely on inmates for subjects and which do not offer any incentive for participation (e.g., money). The true attrition rate among the segregated group was also relatively low (10.8%) for a longitudinal study. It is important to note that none of

the attrition was attributable to offenders being incapable of participating in the study because of high-risk of attempting to commit suicide or episodes of delusion or hallucination. Although always a concern, the rate and nature of the attrition in this study does not significantly undermine its ability to be generalized.

Fourthly, this study relied on multiple assessments of mental health and psychological functioning of offenders (i.e., externalizing/aggression, internalizing/interpersonal distress, psychiatric symtomatology, and cognitive ability). This approach provided a more comprehensive assessment of potential psychological effects of administrative segregation, and is consistent with preferred contemporary psychological and psychiatric assessment practices (DSM-IV, 1994). For example, Zamble (1992) argues that a variety of measures of behaviours, cognitions and emotional experiences are needed to assess coping. Neglecting to rely on such a wide spectrum of measures may result in a failure to detect significant psychological effects.

Finally, non-segregated offenders scored significantly higher on a measure of impression management than segregated offenders. Arguably, since segregated offenders did not show significant signs of mental health and psychological deterioration and were more accurate in their responses than non-segregated offenders, the results of this study are more convincing.

The above mentioned factors enhance the level of confidence in the results of this research. However, there are clear limitations to this study, which may reduce the generalizability of the findings. Firstly, a large number of offenders in both segregated (96%) and non-segregated (87%) groups had previously experienced segregation. Secondly, the findings are limited to 60 days in administrative segregation, and any extrapolation to lengthier stays would be inappropriate. It is important to note however that statistical data collected by the Correctional Service of Canada (Laplante, 1998) indicate that during the period

of June 1997 to May 1998, 93% of involuntary cases and 69% of voluntary cases were released prior to the 60 day regional review. This fact suggests that a majority of offenders are segregated for periods of less than 60 days; therefore, the findings of this study are very relevant to the Canadian federal context. Although not examined in this study, it is also relevant to note that 60 days in segregation is twice the maximum length of time that can be legally imposed for serious disciplinary infractions in Canadian federal penitentiaries.

Thirdly, as stated above, the three penitentiaries selected in this study are among the toughest medium and maximum-security institutions in the country. These penitentiaries rely heavily on administration segregation to control their inmate populations, which are composed of high-risk and high-need federally sentenced offenders. The results of this study should be limited to such inmate populations. Further, the findings of this study may be less applicable to other jurisdictions, such as the United States, in which segregated offenders typically remain in administrative or disciplinary segregation for much longer periods of time, and often under harsher conditions of confinement (Coyle, 1987; Dowker & Good, 1993; Immarigeon, 1992; Korn, 1988).

Finally, it would also be inappropriate to extend the findings of this study to aboriginal (Bertrand, 1996) and women offenders (Korn, 1988). The realities and experiences of women and aboriginal offenders may affect their ability to adapt and cope with segregation. It is hoped that current initiatives undertaken by the Correctional Service of Canada will provide information on the psychological effects of segregation with these offenders.

Personality

It was expected that certain personality types would react to the segregation experience differently. Although no deterioration was found, differences in personality between segregated and non-segregated offenders were found. These differences have been suggested in the PC and segregation literature, but have seldom been assessed using standardized measures, such as the NEO Personality Inventory (Gendreau, Tellier, & Wormith, 1985; Hodgins & Cote, 1991; Rold, 1992).

The NEO was developed to operationalize the five-factor model of personality, a representation of the structure of traits developed over the last forty years (Digman, 1990). Costa and McRae (1990) found that since 1985, research using the NEO has demonstrated that the five factors can account for the major dimensions in personality questionnaires designed to measure, *inter alia*, the DSM-III-R personality disorders. Segregated offenders were found to score higher on Neuroticism (N) than non-segregated offenders. Costa and McCrae (1992) explained that "the general tendency to experience negative affects such as fear, sadness, embarrassment, anger, guilt, and disgust is the core of the N domain" (p. 14). They also suggest that neurotic individuals tend to cope more poorly with stress than others. Although segregated offenders were found to score higher on Neuroticism and may, therefore, be ill equipped to cope with the stress associated with segregation, the findings of this study suggest that they nonetheless adapted and coped well with the segregation experience.

Segregated offenders scored significantly lower on Extraversion (i.e., less sociable, likely to prefer large groups, assertive, active and less talkative), Openness (i.e., less active imagination, sensitivity, attentiveness to inner feelings, intellectual curiosity, and independence of judgment), Agreeableness (i.e., less altruistic and sympathetic to others and eager to help them, and more

egocentric, skeptical of others' intentions, and competitive rather than cooperative), and Conscientiousness (i.e., less strong-willed and determined) than non-segregated offenders. Arguably, these trait patterns depict individuals, which have personalities that may bring them at odds with non-segregated offenders as well as correctional staff. The general inmate population may not tolerate offenders with such personality patterns. Due to their lack of assertiveness, general tendency to experience negative affects, and overall poorer mental health and psychological functioning, segregated offenders may be more easily victimized or less apt at adapting and coping with prison life.

Psychological Effects

Overall, both segregated and non-segregated offenders reported better mental health and psychological functioning over time. This finding is common in studies which rely on repeated-measures designs and has been primarily attributed to practice effects (Pedhazur, 1982). For example, Zamble (1992) found that offenders' emotional states generally improve over time. Participants lose interest in answering repeatedly to identical questions and tend to report less problems overtime.

Although there is an alternative explanation to account for these overall improvements in mental health and psychological functioning, it is less plausible. It is unlikely that these improvements in both segregated and non-segregated groups were attributable to significant events, which occurred in all three penitentiaries. During the eight-month data collection phase, research assistants could not identify any event which could have had positively affected prison life for both segregated and non-segregated offenders and account for the overall improvements. Therefore, the improvements in mental health and psychological functioning of both segregated and non-segregated offenders should be viewed as artifacts of repeated testing.

It was hypothesized that as a group segregated offenders overall would report greater mental health and psychological functioning problems than non-segregated offenders. This hypothesis was supported by the fact that segregated offenders indicated significantly more internalized problems, interpersonal distress and psychiatric symptoms than non-segregated offenders. Segregated offenders also displayed significantly more depressive symptoms, problems in psychosocial adjustment, and transient anxiety than non-segregated offenders. These results are consistent with many cross-sectional and qualitative studies (Brodsky & Scogin, 1988; Grassian 1983; Hodgins & Cote, 1991; Wormith, Tellier & Gendreau, 1988; Rold, 1992). It is important to reaffirm that these between group differences may not be attributed to placement in administrative segregation.

The most important questions raised in this study were whether the poor mental heath of segregated offenders was attributable to segregation or whether segregated inmates already were of poorer mental heath prior to their segregation. The hypothesis that the mental health and psychological functioning of segregated inmates would deteriorate over a period of 60 days in segregation was not supported. The ANOVAs performed on each of the eight measures did not reveal any deterioration. These results can be interpreted in two ways: (a) segregated offenders generally adapted and coped well with the conditions of today's Canadian federal administrative segregation; or (b) the segregated inmates did not perceive the conditions of their confinement as threatening or stressful and therefore were not affected by them.

On one hand, there is no shortage of researchers, ourselves included, who have observed or reacted strongly to the conditions of confinement of segregated inmates (e.g., 23 out of 24 hours of cell confinement, small yard size, lack of programs and services, constant state of idleness, etc.). However, on the

other hand, other researchers have commented on all the distractions, programs and services that are available in segregation units in Canadian penitentiaries (e.g., TV, radios, books, computers, exercise period often with the company of other offenders; Suedfeld et al., 1982). Moreover, the Task Force Reviewing Administrative Segregation (Kane, 1997) was confronted with many correctional staff who thought segregation units were "too comfortable" for offenders. They often suggested, contrary to current legal and policy provisions, that the conditions of confinement should be made more harsh in order to discourage offenders from requesting segregation and to provide an "incentive" for segregated inmates to reintegrate into the general inmate population.

Another explanation to account for these results could be that the environment that offenders were in before segregation was such that it was viewed more negatively than the conditions of confinement in segregation. If that is the case, it suggests that the correctional authorities must take further steps to ensure that the general inmate population is safe and secure.

Nonetheless, regardless of the possible explanations to account for the lack of deterioration, this study is somewhat encouraging because it provides evidence that segregation for 60 days as currently administered in Canadian penitentiaries does not negatively affect offenders' mental health and psychological functioning.

In sum, analogous to the effects of administrative segregation, Zamble and his colleagues have repeatedly found that psychological functioning was remarkably stable over time in prison, and that contrary to the expectations of proponents of the prisonization theory, marked psychological deterioration is not a necessary consequence of long term imprisonment (Zamble, 1992; Zamble & Porporino, 1988, 1990; Zamble, Porporino, & Kalotay, 1984). Perhaps what

Zamble and his colleagues have characterized as "the deep freeze" (Zamble 1992; Zamble & Porporino, 1988, 1990) is also an appropriate description of what typically happens to inmates placed in administrative segregation for periods of up to 60 days.

Policy Issues

It was anticipated that this research would have important policy implications in areas such as: (a) the level and frequency of monitoring and assessment required for inmates in segregation (mandatory vs. upon request); (b) programming to reduce mental health deterioration (the need for, and type of, intervention programs); and (c) the adequacy of current assessment strategies (what aspects of psychosocial functioning are important to assess, and which are less impacted by segregation). Since detrimental effects were not found, the policy implications are somewhat less significant than anticipated .

First, with regard to monitoring and assessment of segregated offenders, psychologists are required by policy to assess segregated offenders every 30 days, and health care workers and wardens are required to make daily visits to segregation units. Although this study revealed no evidence of detrimental effects, the 30-day requirement should be preserved, as well as the daily visits by health care workers and wardens. Arguably, reducing the few contacts segregated offenders currently enjoy could have negative consequences. It could be that regular contact itself is an important factor reducing the likelihood of deterioration. Moreover, this research only suggests that the possibility of negative effects is likely to be an exception rather than the norm. Since the findings of this study do not preclude in any way the possibility that some offenders may in fact be negatively affected by segregation, close monitoring should continue.

Due to their overall poorer mental health and psychological functioning, it may be appropriate as a "best practice" for psychologists to meet with all offenders placed in segregation. This could serve to establish a baseline for subsequent evaluations of mental health and psychological deterioration and to provide support for segregated inmates at times of crisis. In addition, since segregated offenders were found to have poorer mental health and psychological functioning, employees working with segregated offenders may benefit from special training on mental health issues.

Interestingly, the 30-day policy requirement also stipulates that psychologists must assess "inmates' capacity to remain in segregation". This criterion implicitly demands that psychologists predict future mental health deterioration. The findings of this research, as well as the existing literature on segregation, do not provide any information on what should be assessed or relied upon when making such a prediction. In fact, making such a prediction with any reasonable degree of accuracy may well be impossible at this time. The policy criterion is unrealistic and it may be more appropriate to limit the assessment of segregated inmates to their current mental health and psychological functioning.

Second, it was expected that this research would provide specific areas of mental health and psychological functioning which needed particular attention when conducting assessment and monitoring of segregated offenders. But again, since this study did not detect detrimental effects, little can be said in the way of policy on what aspects of mental health and psychological functioning should be carefully scrutinized. However, some general comments can be made regarding psychological assessments.

Currently, psychologists utilize a standard form which highlights general mental health issues (e.g., risk of suicidal or self-injury, depression, anxiety,

aggression, psychosis, mania) when completing their 30-day assessments. However, how to assess each component is left to the psychologist's discretion. Typically, psychologists conduct a brief semi-structured interview with the segregated offender. It may be appropriate as a "best practice" to conduct more elaborate assessment procedures to ensure that minor or perhaps less obvious deterioration can be detected and documented.

Finally, the findings of this study have programming implications for segregated offenders. Andrews, Zinger, Hoge, Bonta, Gendreau, and Cullen (1990) performed a meta-analysis, which is a quantitative and objective review of primary research (Cook & Leviton, 1980), on the effectiveness of correctional programs. They found that treatment programs conducted in accordance with the following three empirically-based clinical principles of successful rehabilitation (Andrews, Bonta & Hoge, 1990) significantly reduced recidivism rates: the risk principle, the need principle, and the responsivity principle. The risk principle involves matching levels of treatment with the risk level of the offender. Higher risk cases should receive more intensive services whereas lower risk cases should receive minimal services. Since segregated offenders were found to be higher risk cases than non-segregated offenders, programs delivered to segregated offenders should be intensive to maximize success.

The second principle, the need principle, requires programs, which are intended to reduce recidivism to target empirically based correlates of criminal behaviour. Andrews and Bonta (1994) have emphasized the importance of targeting variables such as antisocial attitudes, pro-criminal associates, and temperamental and personality factors. Although the primary concern with providing programs to segregated offenders is to facilitate their reintegration into the general inmate population, if such reintegration cannot occur quickly, intensive treatment programs that target variables that are known to be linked to criminal conduct should be introduced.

Lastly, the responsivity principle refers to the delivery of programs in a style and mode consistent with the learning ability and learning style of the offender (Andrews & Bonta, 1994). Social learning and cognitive-behavioral approaches have been identified as the approaches, which best reduce recidivism. Andrews et al. (1990) has demonstrated that these approaches have consistently generated better results. The distinct personality patterns of segregated offenders may be important to consider and assess when delivering treatment programs to them.

Future Direction and Conclusion

Because this study is one of the very few empirical longitudinal studies which has evaluated the effects of segregation, additional research is obviously needed. On a personal note, it is easy to understand why so little research of this kind has been completed. It is costly, time consuming and requires a great deal of dedication and collaboration from various actors. Support from the correctional authorities is required, and data collection necessitates a great deal of support from research assistants, psychologists, wardens, segregation unit managers and staff. Moreover, segregation units have typically insufficient interview and hearing rooms to accommodate everyone, let alone researchers. Segregation Review Boards, Independent Chairpersons and the National Parole Board often rely on space available in segregation units to hold hearings; psychologists need to conduct psychological assessments; parole officers (i.e., case management officers) are required to meet with segregated offenders to, *inter alia*, update correctional plans; and, lawyers must occasionally meet with segregated offenders. As well, staff managing segregation units need to ensure that segregated offenders get their showers and daily hour of exercise. This may seen trivial, but with limited staff managing large segregation units which house

many "incompatible" offenders and which only possess one or two exercise yards and shower facilities, the level of activities in segregation units is surprising. Working around these priorities and under strict and elaborate security protocols makes this type of research venture quite difficult. To conduct further research in this area, correctional authorities should encourage their psychologists, who are already required to monitor and assess segregated offenders, to perform additional research. Correctional psychologists could easily conduct longitudinal segregation research if correctional authorities provide them with opportunities to pursue their research interest and some resources. A decentralized operational research function brings great benefits to correctional authorities.

It is obvious that research evaluating the effects of segregation beyond 60 days is also needed. Once again, it would be ill advised to attempt to extrapolate the findings of this study (a) beyond 60 days of administrative segregation, and (2) to other jurisdictions. For example, the findings of this study are somewhat irrelevant to current segregation practices in the United States where offenders can be segregated for years for disciplinary infractions with virtually no distractions, human contacts, services or programs.

The difference between the personality of segregated and non-segregated offenders is an important finding. Although many have suggested that segregated offenders' psychological weaknesses and idiosyncratic behaviours were not well tolerated by the general inmate population (Carriere, 1989; Gendreau, Tellier, & Wormith, 1985; Rold, 1992; Wormith, Tellier, & Gendreau, 1988); the personality of segregated offenders had seldom been assessed. Whether a distinct personality profile may increase an offender's risk of being placed in administrative segregation should be further examined using more comprehensive measures of personality.

Although this research revealed no evidence that administrative segregation for periods of up to 60 days was damaging, the findings of this study should not be used to legitimize the practice of administrative segregation. As Johnston and Toch (1983) have remarked, "science is a hard game to play where policy implications are immediate and where we are concerned about the consequences of our findings" (p. 16). Administrative segregation remains a management tool, which are grossly overused in Canadian penitentiaries. Regardless of whether offenders adapt and cope well with the segregation experience, it is not healthy for anyone to idle aimlessly in a cell for 23 out of 24 hours a day; it simply is not a constructive way of serving a sentence; and, it is likely to impede attempts to rehabilitate and safely reintegrate offenders into society.

Although it will always remain a legitimate management tool to effectively deal with problematic situations and individuals, its current use is perhaps symptomatic of the Correctional Service Canada's inability to reduce tensions and resolve conflicts in the prison context. Administrative segregation has clearly become the number one way of managing inmates and "doing business". Laplante (1998) reported that during the period between June 1, 1997 and May 31, 1998, out of an inmate population that averaged 13,504 offenders, 6,848 placements in administrative segregation took place. Of these, 2534 (37%) offenders were placed in segregation more than once during that same period, and a staggering 4314 (63%) offenders were new placements. Such high reliance needs to be carefully examined. Moreover, the costs associated with processing these offenders in accordance to due process requirement are extraordinary (i.e., paperwork, enhanced security and staffing, and reviews by wardens, Segregation Review Boards and Regional Headquarters, etc.). It is time to rethink conflict resolution in Canada's penitentiaries.

Implementing alternative/appropriate dispute resolution processes on a large scale is the most promising initiative to reduce the disproportionate number of segregation cells and units in Canada's federal correctional system. Providing the tools to resolve conflicts and fostering a correctional environment respectful of human rights is the only way to breakdown this over-reliance on administrative segregation for managing offenders. Breaking the vicious cycle of relying on administrative segregation to reduce tensions and resolve conflicts should be the number one priority for the Correctional Service of Canada.

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APPENDIX A: CONSENT FORM

I _____, have been asked to take part in a study on the psychological effects of incarceration. I understand that this study is being conducted by the Research Branch of the Correctional Service of Canada coordinated by Ivan Zinger, Research Officer. The purpose and method of this study have been explained to me, and I understand the explanation. I have been given the opportunity to ask questions about the study, and am satisfied with the responses I was given.

I understand that participation in this study will include up to three sessions in which an interview will be conducted and questionnaires filled out. I have been made aware that these sessions will be about 60 to 90 minutes in length. Furthermore, I understand that I may refuse to continue with the study, or answer questions at any time.

There is no penalty if I choose not to participate, nor will participation be considered in any kind of release decision.

I understand that the information gathered in this study will be kept confidential. I also understand that my answers will be coded in such a way that I can not be identified in any report of the results. However, part of the study will include questions about my mental health, such as the presence of suicidal thoughts. If it becomes clear during the interview that you are suicidal, I understand that a psychologist will be notified. I also understand that I may be approached in the future concerning further evaluations of my psychological health.

This project has passed ethics approval boards both at Carleton University and Correctional Service of Canada (CSC). If you have any concerns regarding this project you may contact Ivan Zinger at CSC [(613) 947-4979] or Dr. Andrews at Carleton University [(613) 520-2662]. If you have ethical concerns about the study, you may also contact the Chair of the Psychology Department, Dr. Matheson [(613) 520-2600, ext. 7513] or the head of the Ethics Committee, Dr. Gick [(613) 520-2600, ext. 2664] at Carleton University.

I agree to take part in this study ____

(or)

I do not want to take part in this research ____

_____ _____

Signature of Participant Date

I, the undersigned, have defined and fully explained the above to the participant in detail, and to the best of my knowledge, it was understood.

_____ _____

Signature of Researcher Date

APPENDIX B: INFORMATION FORM

The purpose of this study is to determine how offenders' in segregation and in the general population think and feel about many different areas of their lives. This study is being conducted at your institution for Correctional Service of Canada.

In this study, we will interview offenders, and ask them to fill out several questionnaires at three points in time. For segregated offenders, the initial session will occur shortly after placement in segregation. Two additional sessions will follow, one at 30 days and one at 60 days after placement. Not all offenders will be able to participate in all three sessions because many will be returned to the general population or transferred. For offenders in the general population, three sessions will be held, an initial one, and two other sessions at 30 and 60 days afterwards.

The purpose of this study is to collect information on the thoughts and feelings of offenders, and to examine how prisons may affect people. The findings from this study may be used later to determine how to improve the system. So if you decide to co-operate, not only will you be helping us, but you may be helping to shape changes in the prison system. At the same time, you need to be aware that we are only collecting information; we will have no power to help you with any problems you may have, and no ability to offer you treatment. You must go through accepted channels for those things. In addition, we can not offer you money, or rewards based on your participation. However, we can provide you with a copy of the results when the study is finished.

All answers provided by offenders will be strictly confidential, there will be no names attached to any of the answers. Your responses will not be shared with any persons other than those directly involved with the study (researchers), nor will they be used for purposes other than research without your further consent. This confidentially is guaranteed by the *Canadian Human Rights Act*, and it will be respected.

We would appreciate your co-operation in this study. If you agree to participate in this study, you may be approached in the future concerning further evaluations of your psychological health. This project has passed ethics approval boards both at Carleton University and Correctional Service of Canada (CSC). If you have any concerns regarding this project you may contact Ivan Zinger at CSC [(613) 947-4979] or Dr. Andrerws at Carleton University [(613) 520-2662]. If you have ethical concerns about the study, you may contact the Chair of the Psychology Department, Dr. Matheson [(613) 520-2600, ext. 7513] or the head of the Ethics Committee, Dr. Gick [(613) 520-2600, ext. 2664] at Carleton University.

APPENDIX C:DEBRIEFING

Over the last two months you have participated in a study concerned with the effects of long term segregation on offenders. This project came about for several reasons, the most important of which was that previous research has yielded conflicting findings regarding the impact of long-term segregation on offenders. Some authors report that segregation has minimal negative effect, yet others report that major mental health deterioration may occur with extended periods of segregation.

The purpose of this study was to explore the possible effects of segregation on psychological functioning in areas such as depression, suicide ideation, and interaction with others. We looked at changes in mental health and psychosocial functioning over a sixty day period. In order to determine if these changes were due to the experience of segregation, we also assessed the health of non-segregated offenders over the same period. A comparison between the two groups (segregated and non-segregated offenders) will provide us with a clearer understanding of the effects of long-term segregation.

Findings from this study may be used to guide programming, and the development of intervention strategies for offenders placed in segregation. It is hoped that this project will not only lead to reduced risk of disturbances in offenders' mental health, it will also function to increase CSC psychologists' provision of services to segregated offenders.

A research report will be available by Fall 1998. If you would like a copy of the report at that time, please contact the Info Centre at CSC Research Branch [(613) 947-8871]. If you have any concerns regarding this project you may contact Ivan Zinger at CSC [(613) 947-4979] or Dr. Andrews at Carleton University [(613) 520-2662]. If you have ethical concerns about the study, you may contact the Chair of the Psychology Department, Dr. Matheson [(613) 520-2600, ext. 7513] or the head of the Ethics Committee, Dr. Gick [(613) 520-2600, ext. 2664] at Carleton University.

APPENDIX D: SESSION 1 INTERVIEW FOR SEGREGATED INMATES

Date of Interview (yy/mm/dd): ____/_____/_____
Subject Number:_____
Subject's Full Name: _____
Subject's FPS Number: _____
Date of Birth (yy/mm/dd): ____/_____/_____
Institution: Collin's Bay ___ Millhaven ___KP ___
Cell Type: Normal ___ Dry ___ Video-monitored ___
Legal Grounds for Placement:
a. type: voluntary ____ involuntary ____
b. reason: inmates own safety jeoperdized ____
inmate jeopardizing safety of others ____
inmate may interfere with ongoing investigation ____

I want to ask you about a number of areas of your life today. We are going to be talking about how you feel about your life and circumstances. If at any point you feel uncomfortable answering a question you may refuse to answer. Before we begin, I need to tell you that although the information you provide today will be confidential, there are limits. I have an obligation to disclose any information you may provide if it's in regards to your safety or that of the institution. These areas include suicide plans, plans of escape, injury to others and the general security of the institution. Do you have any questions before we begin?
Let's start out with some general questions...

General Well-Being

1. On a scale of 1 to 10 with 1 being the very worst and 10 being the very best:
   a. what is the very worst you have **ever** felt? ____
   b. what is the very best you have **ever** felt? ____
   c. how you are feeling **today**? ____

Life on the Outside

First I would like to talk about life on the outside, and ask you some general questions about your health.

Mental Health Functioning

2. Have you ever been in a psychiatric hospital/ward for a long period of time (minimum of 1 month)? Yes No

if YES,
a. for what? _____
b. for how long (months)? _____

3. Have you ever seen a psychologist, psychiatrist , or counselor (other than for court)? Yes No

if YES

a. for what? (diagnosis or symptoms) _____

4. Have you ever been on any psychiatric medication?

if YES,

a. for what? _____

b. for how long (months)? _____

5. How many times have you ever had a head injury, lost consciousness or blacked out? Never # of times ____

if HAS,

a. did you have to go to the hospital? Yes No

6. How far did you get in school (grade)? ____

if LESS than Gr. 11

a. how old were you when you quit? ____

7. Were you ever placed in special classes at school? Yes No

if YES,

a. what for? _____

Social Relationships

I would like to talk about your relationships on the outside.

8. On a scale of 1 to 10 with 1 being extremely unimportant and 10 being extremely important, rate how important you think it is to have friends. ____

9. When you were on the outside, what were your living arrangements? Did you:
   a. live with a spouse (include. common law)
   b. live with a spouse and children
   c. with other family members
   d. live with friends
   e. live alone
   f. other (specify): _____

10. How would you characterize your friendships when you were on the outside?
   a. no friends
   b. some casual friends
   c. some casual and some close friends
   d. many close friends

Casual friends are those who you do not spend a lot of time with, those with whom you have a passing acquaintance. These are the people you would stop and talk to on the street, but who you do not rely on or expect to be there for you.

Close friends on the other hand you see more often, they are the ones you would most prefer to spend your time with. You feel like you can trust them with private ideas and details, and who trust you too. Close friends know lots about each other, and can be counted on in a tight spot.

11. On a scale of 1 to 10 with one being extremely unhappy and dissatisfied and 10 being the happiest you could be, you wouldn't change a thing, how **did** you feel about your social relationships in general? ____

Segregation Experiences

I would like to talk about your experiences in prison. I am going to ask you questions about segregation, your treatment, and your life in general while incarcerated.

12. Have you ever been in segregation before? Yes No
if YES,
a. how many times? _____
b. average number of days ____

13. What events or circumstances led to your placement in segregation this time? (specify) _____
_____
_____

14. On a scale of 1 to 10 with 1 being grossly unfair and 10 being extremely fair,
a. rate the fairness of the process by which you were placed in segregation ____
b. rate the fairness of the system ____

15. On a 10 point scale, with 1 being much worse and 10 being much better,
a. generally, rate the way you are treated by staff now you are in segregation ____;
b. generally, rate the way you were treated by staff when you were in the general population ____

16. How long do you think you'll be in here? _____ (days)

Suicide Ideation

At different points in our lives, nearly everyone feels bad or thinks that things are going poorly. Sometimes these feelings are very strong, and may even lead people to consider whether or not they want to go on. I would like to ask you some questions about these kinds of feelings.

17(a) Have you ever been so down or depressed you've *thought* of hurting yourself? Yes No

17(b) Have you ever been so down or depressed you've *thought* of committing suicide? Yes No

if YES,

i. how often in the last year? _____

ii. rate the severity of these thoughts on a scale of 1 to 10 with 1 being a passing thought, briefly considered and 10 being a very serious thought - in which you had decided the method you would use and had made preparations. ____

iii. were you (usually) under the influence (alcohol/drugs) at the time? Yes No

18. Have you ever thought about how you would do it? (method) _____

19. Have you *thought* about committing suicide in the last week? Yes No

if YES,

rate the severity of these thoughts on a scale of 1 to 10 with 1 being a passing thought, briefly considered and 10 being a very serious thought in which you had decided the method you would use and had made preparations. ____ (if serious problem for method - if a realistic method, note it)

20. Have you ever *attempted* suicide? Yes No

if YES,

a. how many times? _____

b. were you under the influence (alcohol/drugs) at the time? Yes No

c. any recent attempts (i.e., last 6 months)? Yes No

d. how did you do it?(list methods)_____

e. why were you unsuccessful? _____

IF RECENT THOUGHTS OF SUICIDE WERE DISCLOSED, PLEASE NOTIFY THE SENIOR PSYCHOLOGIST IN WRITING AND BY TELEPHONE

Life in Prison

Now I want to talk a bit more specifically about your life in prison.

Social Relationships

21. How would you characterize your friendships in here?
a. no friends
b. some casual friends
c. some casual and some close friends
d. many close and casual friends

22. On a scale of 1 to 10 with one being extremely unhappy and dissatisfied and 10 being the happiest you could be, you wouldn't change a thing, how **do** you feel about your social relationships, in here? ____

Somatic Problems

23. For the following questions, I would like you use a 10 point rating scale to indicate possible problems in several areas. On a scale of 1 to 10 with one being no problem at all, and 10 being a very severe problem, do you have any problems with:? (specify)
a. sleeping: _____
b. anger: _____
c. concentration: _____
d. memory: _____
e. appetite: _____
f. interaction with others: _____
g. other: _____

24. Aside from sleeping, how much time in the average week do you spend on:
a. School, or programs _____ hours/week
b. Visits and writing letters _____ hours/week
c. Watching TV, listening to radio or music? _____ hours/week
d. Hobbycraft _____ hours/week
e. Recreation: _____ hours/week (describe)_____
f. Other _____ hours/week (describe)_____

Debriefing

Thank you for your time and assistance with this project. If you experienced any distress as a result of your participation in this study, you may request to see a psychologist.

I want to remind you that the responses you provided to these questions today will be kept confidential and will not impact in any way on a release decision.

With this project, we hope to improve our understanding about the effects of long-term segregation. Although your particular comments will not be reported, they will help us in this endeavor.

If you are still in segregation when the next interview sessions are conducted, I very much hope you will agree to participate. Do you have any questions?

APPENDIX E: CHECKLIST OF PHYSICAL CONDITIONS OF CONFINEMENT

Institution Name: _____ **Date:** _____
Filled out by: _____

A. Cell descriptions:

1. Typical Segregation Cell:

a. Dimensions
   i. size: _____(approx. sq. ft.) ceiling height: _____(ft.)
   ii. number of cells (in seg. unit): ____
   iii. % of cells currently double-bunked ____%
   iv. power outlets?: Yes No

b. Window
   i. size: ___ by ___ (in.)
   ii. able to open? Yes No

c. Door
   i. double door? Yes No
   ii. solid door? Yes No
   iii. window in door? Yes No
   if YES,
   size: ___ by ___ (in.)

2. Other Types of Cells:

Dry Cells:

a. Dimensions
   i. size: _____(approx. sq. ft.)
   ii. ceiling height: _____(ft.)
   iii. number of cells: ___
   iv. power outlets?: Yes No

b. Window
   i. size: ___ by ___ (in.)

c. Door
   i. double door? Yes No
   ii. solid door? Yes No
   iii. window in door? Yes No
   if YES,
   size: ___ by ___ (in.)

Video-Monitored Cells:

a. Dimensions
   i. size: _____(approx. sq. ft.)
   ii. ceiling height: _____(ft.)
   iii. number of cells: ___
   iv. power outlets?: Yes No

b. Window
   i. size: ___ by ___ (in.)
   ii. able to open? Yes No

c. Door
   i. double door? Yes No
   ii. solid door? Yes No
   iii. window in door? Yes No
   if YES,
   size: ___ by ___ (in.)

B. Yard:

1. Size: _____(approx. sq. ft.)
2. Sides: Concrete Walls Fence Other: _____
3. Overhead: Partially Covered Open

Comments: _____

C. General:

1. Common Area? Yes No
2. Number of : interview/visitor rooms: ___
3. Telephone in Cell? Yes No

Comments:_____